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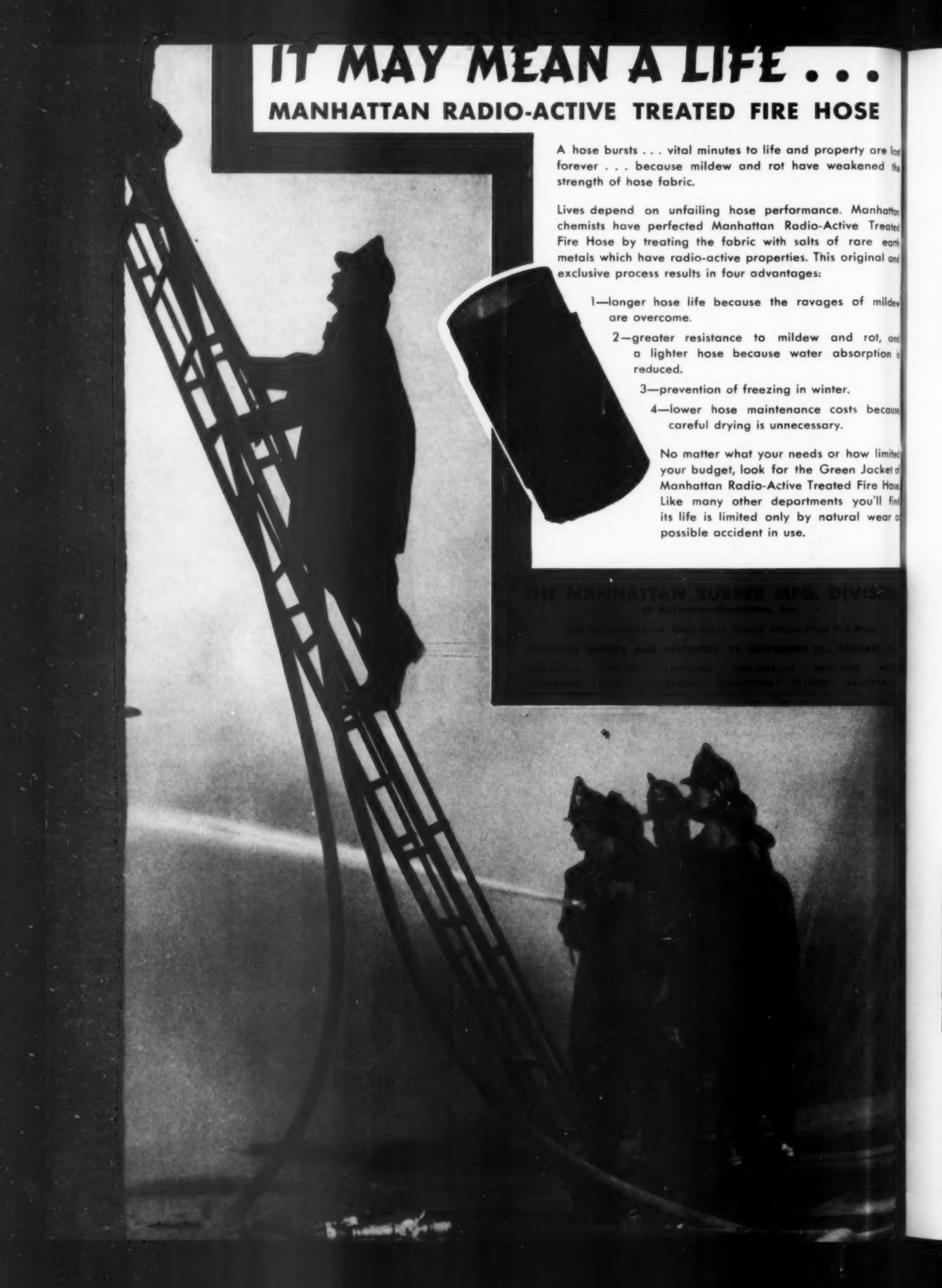
FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

Vol. 90. No. 4 APRIL, 1937 Member A.B.C.—A.B.P.

In No Branch of the Fire Service Is Training More Necessary Than in Rescue Work. Here's How the New York Fire Department Does It


IT MAY MEAN A LIFE . . .
MANHATTAN RADIO-ACTIVE TREATED FIRE HOSE
A hose bursts . . . vital minutes to life and property are lost forever . . . because mildew and rot have weakened the strength of hose fabric.
Lives depend on unfailing hose performance. Manhattan chemists have perfected Manhattan Radio-Active Treated Fire Hose by treating the fabric with salts of rare earth metals which have radio-active properties. This original and exclusive process results in four advantages:
1—longer hose life because the ravages of mildew are overcome.
2—greater resistance to mildew and rot, and a lighter hose because water absorption is reduced.
3—prevention of freezing in winter.
4—lower hose maintenance costs because careful drying is unnecessary.
No matter what your needs or how limited your budget, look for the Green Jacket of Manhattan Radio-Active Treated Fire Hose. Like many other departments you'll find its life is limited only by natural wear or possible accident in use.

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20,000 IN HOR
FIRES
RN WOODS
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Killed
7 DIE AS FOREST FIRES BURN TOWN
Thousands Battle Blaze Over Big Area Around Border of Oregon, California.
3 TOWNS IN WAY OF FOREST FIRE
50,000 Battle Flames Raging in North Woods; Isle Royale in

Stop FIRE WASTE!

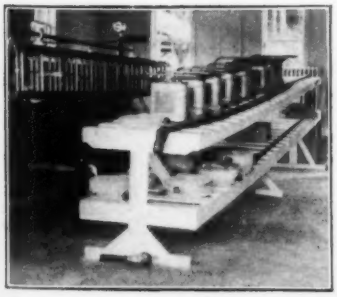
with Famous INDIAN FIRE PUMPS

LOSS from grass fires, awning fires, roof fires and spot fires is being cut down by the wide use of INDIAN FIRE PUMPS. Without laying a single section of hose, most of these fires can be quickly and completely put out with INDIANS.

Are you equipped with these one man fire departments that use only clear water? The INDIAN has been designed according to specifications of experts on fire protection. The solid brass pump throws a strong 50-ft. stream and the metal tank, curved to fit back, will not rot, bulge or puncture. Ventilated tank prevents moisture or dampness reaching carrier's back.

Tanks may be carried filled on truck without spilling. Large opening permits quick refilling on the fire line. Every fire department regardless of size or location needs INDIANS to complete its equipment. Write today for complete details and prices.

Illustrated folder, price list, and testimonials sent on request.



Nine INDIANS at Long Lake, N. Y., Fire House

In the rack ready for action, photo at left shows filled INDIAN FIRE PUMPS at Long Lake, N. Y., fire house. Rural and large city fire protection agencies are rapidly increasing their supply of these portable pumps.

CARRYING RACK

The Carrying Rack makes the outfit complete. Used by Fire Departments everywhere for holding Fire Pumps firmly in place on running boards or floors of apparatus. The rack should be ordered with the INDIAN. An accessory that every Fire Department will find indispensable for use with their INDIAN Fire Pumps.

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A.D.T. PERFORMANCE 1936

THERE is only one valid test of the value of any protection system —its actual performance record in minimizing losses. The following statistical analysis of A.D.T. performance during 1936 and over the past ten-year period furnishes convincing proof of the effectiveness of A.D.T. protection services in preventing fire and burglary losses.

Sprinkler Supervisory and Waterflow Alarm Service

Supervisory alarms, indicating impairment of sprinkler systems . . **110,701**

Waterflow alarms, indicating fire conditions or serious leaks **1,989**

Percentage of fire and water damage losses to insurable values of protected properties . . . . . **13/1,000ths of 1%**

During the past ten years, subscribers to A.D.T. Sprinkler Supervisory and Waterflow Alarm Service have enjoyed 99.97% IMMUNITY FROM FIRE LOSS.

Watchman Supervisory and Manual Fire Alarm Service

Investigations of delinquencies in watchmen's signals **163,953**

Total number of signals supervised was approximately 273,196,560; hence, the watchman patrol efficiency was **99.94%**

Manual Fire Alarms received and responded to **1,435**

Percentage of fire losses to insurable values . . . . . **2/100ths of 1%**

During the past ten years, subscribers to A.D.T. Watchman Supervisory and Manual Fire Alarm Service have enjoyed 99.96% IMMUNITY FROM FIRE LOSS.

Burglar and Holdup Alarm Services

Burglars captured as result of A.D.T. alarms **314**

Percentage of losses in attacks on A.D.T. protection, in relation to insurable values . . . **9/1,000ths of 1%**

During the past ten years, A.D.T. Burglar Alarm Protection has given 99.97% IMMUNITY FROM BURGLARY LOSS.

A.D.T. Central Station Protection Services are available in 350 cities. Booklets describing these services, as well as any other information desired, will gladly be sent upon request. Write to the A.D.T. Executive Offices, 155 Sixth Avenue, New York, or to the nearest A.D.T. Central Station.

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A NATION-WIDE PROTECTION SERVICE AGAINST FIRE, BURGLARY AND HOLDUP

A·D·T

SEAGRAVE LEADS THE FIELD

Why

HERE ARE THE ANSWERS

1 Seagrave produced the first pumping engine equipped with a centrifugal pump. Today there are more Seagrave centrifugal pumps in service than the combined total of all competitive centrifugal pumping engines.

2 Seagrave produced the first pumping engine equipped with an automatic pressure regulator which controls motor speed from the nozzle.

3 Seagrave produced the first pumping engine with a self-contained auxiliary cooling unit.

4 Seagrave produced the first parallel series type centrifugal pump with a hydraulically operated control valve.

5 Seagrave produced the first aerial ladder with complete hydraulic operation.

6 Seagrave produced the first American all-steel aerial ladder.

7 Seagrave built the first fleet of sedan type pumpers.

8 To make this leadership possible, much has been invested in research, in manufacturing facilities and in development of more modern equipment.

9 During the many years that we have been producing fire apparatus, the dependability of Seagrave machines has been tested in hundreds of cities under all conditions. They have stood the test of time. The name Seagrave stands today as the greatest in fire apparatus.

10 Modern engines, modern centrifugal pumps, modern steel aerial ladders, modern closed bodies, all are available in Seagrave apparatus.

CONCLUSION

By following sound engineering practices and by building, for more than twenty-five years, the finest motor fire apparatus obtainable, Seagrave achieved leadership.

Seagrave leadership was not achieved merely by the use of catch phrases or superlatives in describing its products.

Seagrave apparatus sets the standard by which modern fire equipment is judged.

SEAGRAVE

THE GREATEST NAME IN FIRE APPARATUS

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A Consolidation of FIRE AND WATER ENGINEERING and THE FIRE ENGINEER

FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

ROBERT H. LOCKWOOD
Associate Editor

FRED SHEPPERD
Editor

N. N. WOLPERT
Assistant Editor

The Boom is On

MOTOR fire apparatus sales — the real barometer of fire department buying activity — are going ahead in leaps and bounds.

● Figures just released by the U. S. Department of Commerce, covering the first two months of this year and based on reports received from practically all the motor fire apparatus builders, show a 35% increase over the number of pieces shipped in the same period last year, and more than 100% above the year before. February alone was 40% better than February 1936, and more than 200% ahead of 1935.

● Thus at the present rate 1937 shows definite promise of being one of the biggest fire equipment modernization years the fire service has seen since the pre-depression boom days.

● What the distant future holds, so far as municipal finances are concerned, remains to be seen, but it's the wise fire official who is getting new equipment now while the getting is good.

The Publishers

P.S. Incidentally, FIRE ENGINEERING, too, is getting along very nicely, with more advertising and circulation than it has had in many a moon.

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BEST FOR FIRE TRUCKS

YOUR FOOT
FIRE TRUCK'S FOOT
LOOK WHAT SAFETY DEPENDS ON!
The sketches above show the importance of a tough, gripping, sure-footed tread—show the relative space occupied by a tire on the road compared with the sole of a man's shoe.
Little difference in area. Yet, while the average man weighs 160 pounds and travels at about 3 miles an hour—fire apparatus weighs several thousand pounds and travels up to 40, 50 miles per hour.
So think of the chances taken—particularly on wet, slippery pavements—with anything less than the safest, surest-gripping tires made.
Remember—the brakes stop the wheels but the tires must stop the truck. Play safe with Goodyears.
Specify Goodyears When Purchasing New Fire Equipment

BECAUSE THEY'RE SAFER!

Fast runs that swing through heavy traffic, in all kinds of weather, over all kinds of pavements, demand tires that are SAFE—SURE-FOOTED.

That's why Goodyears are the pick of fire chiefs the country over. They're SAFER—from accidents resulting from skidding—from blowouts.

No other tires give you the non-skid protection of Goodyear's famous All-Weather tread. With more and deeper gripping edges of chemically-toughened rubber, it provides sure grip for emergency stops—sure-footedness for slippery streets, sharp turns, steep grades.

And only Goodyears give you the extra strength and protection of patented, pre-shrunk Supertwist Cord—greatest known safeguard against blowouts—against tire failure of any kind.

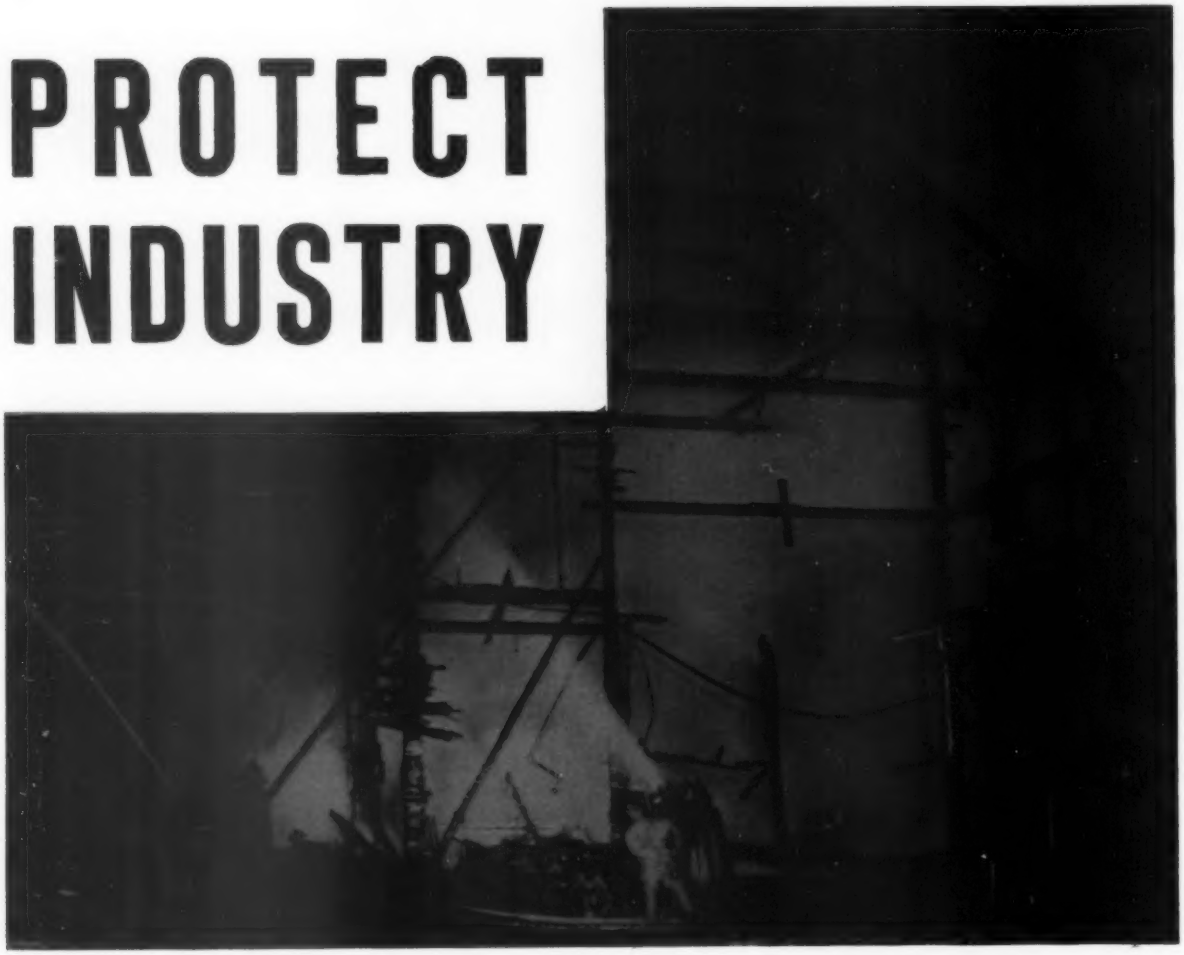
Goodyear Tires are SAFER tires—BEST FOR FIRE APPARATUS.

THE GOODYEAR TIRE & RUBBER COMPANY, INC., AKRON, OHIO

There's a GOODYEAR BATTERY now!

GOODYEAR TRUCK TIRES

PROTECT INDUSTRY



PROPERTY CREATED BY YEARS OF INDUSTRY IS DESTROYED BY FIRE IN AN HOUR ***as the result of only a slight delay in sending an alarm.***

Fire is the greatest destroyer of property, and—*delay* due to inadequate facilities for transmitting alarms to the fire department is the greatest accelerator of the flames.

A reliable Fire Alarm Telegraph System with adequate box distribution protects property, gives the fire department a chance to keep losses small, and relieves the community as a whole from the responsibility for fire waste due to *Delayed Alarms.*

Surveys, plans, and estimates furnished without cost or obligation.

The Threefold Fire Alarm Box

"A Box a Block" in congested high value districts; not more than 500 feet to the nearest box in closely built residential districts; convenient to every group of buildings, manufacturing establishments, and institutions in sparsely built districts is generally a safe rule to follow.

THE GAMEWELL COMPANY

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FIRE ENGINEERING

The Journal of the Fire Protection Profession

Volume 90 APRIL, 1937 No. 4

With the Editor

Sensible Cooperation Commanding officers of fire companies located in the Borough of Queens, New York City, are required to instruct company building inspectors, while making tours of inspection in their company districts, to observe the condition of streets, avenues and roads in that borough. Wherever dangerous or bad road conditions exist, a report is forwarded for transmittal to the Bureau of Highways.

The Borough of Queens is made up largely of moderate or low priced dwellings, and the Borough experienced mushroom growth in recent years. Many streets are unimproved, while others are of poor grade macadam. Bad road conditions are therefore not uncommon.

Cooperation by Fire Department inspectors in reporting dangerous conditions should prove highly beneficial, not only to fire apparatus, but to private vehicles as well.

It is a sensible plan of cooperation.

* * *

Traveling Towns The astounding growth during the past year in the number of trailers on the highways brings a new problem for the Fire Department. It is not while these trailers are on the move that they present any particular fire hazard. Instead, it is when they park for the night.

Many small cities, providing parking spaces for the trailers, now find that they have quite a sizeable annex each night, and with an entirely new set of dwellers and dwellings. If the plot is within the city, the Fire Department is responsible for protection of property and life against fire in the settlement.

The problem will grow more acute in the future, for many prominent automotive manufacturers are going into the business of building trailers. Maybe the time is ripe for giving this matter a little study!

* * *

One Way to Reduce False Alarms Allentown, Pa., should not be bothered greatly by false alarms, if all her police magistrates act alike. Recently a false alarm sender drew a sentence of six months in prison, one hundred dollars fine and costs. The courts can do a lot to discourage false alarms, but it requires cooperation and consistency.

Heavy jail terms to all, with no exceptions, should prove highly effective in reducing, or even eliminating, the nuisance. Cooperation by Police and Fire Department members, as well as by the public, is a most essential factor in the work.

Fred Sheppard

MAIN LIBRARY

How Newark, N. J., Trains Its Fire Officers

The Fire College Was Established in 1932 and Holds Its Sessions for Five Weeks in April and May

THE Fire College of the Fire Division, city of Newark, N. J., was established on June 6, 1932, by ex-Chief John J. Towey, who has recently retired from the division. The officers at the time of its establishment were: President Ex-Officio, Director of Public Safety Michael P. Duffy; Deputy Director of Public Safety Avitus J. Doughtery; Fire Commissioner John B. Keenen; Chief John J. Towey; Deputy Chief George F. Lynch and Deputy Chief Charles E. Duffy.

General View of College Equipment

The purpose of the college is to "disseminate knowledge of fire fighting; to establish and maintain the highest professional standards, and to afford officers of the department the advantage of the experience of men who have devoted their lives to this vocation."

The college lasts five weeks, during April and May. The following outline of "Class of Work No. 1—Covering Exposures at Fires," will give an excellent idea of the method of conducting classes at the college:

Class of Work 1.—Covering Exposures at Fires

Morning class opens at 9:30 a.m.
Roll Call.

Introduction and general outline of the subject given by the Instructor.

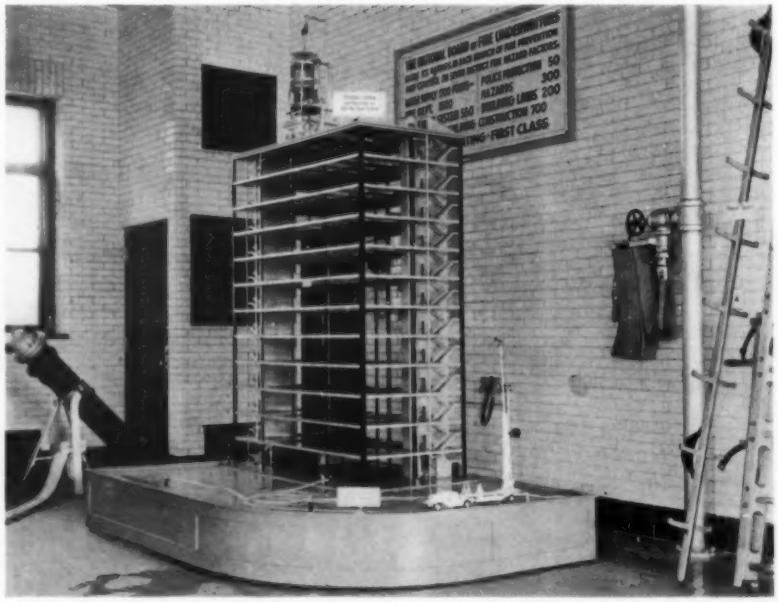
First Step—What the Officer Does

A. Sizes up situation and covers external exposures depending on extent and intensity of fire; proximity; construction and contents of structures; climatic conditions, available fire-fighting equipment; water supply; road and street conditions. Selection of points of attack; closing of openings; removing exposures where possible; use of water streams or water curtains or other extinguishing agencies. Erecting emergency barricades; patrolling exposures for flying embers; properly selecting places for ventilation or the demolishing of structures in the path of the main body of fire.

B. Sizes up situation and covers internal exposures depending on extent, intensity and location of fire; construction and contents of structure; climatic conditions; available fire-fighting equipment; water supply; occupancy; condition of structure. Acts, by selecting points of attack; ventilating; covering all exposed openings with water and other extinguishing agencies; by closing doors and shutters to confine fire; by removing contents, opening walls, floors and ceilings.

Second Step—What the Officer Should Know

Relative fire resistance of various types of structures.
Location of exposures.
Contents and occupancy of exposed structures.



Miniature Building, with Standpipe and Gravity Tank System and Miniature Water Tower, Used for College Demonstrations

Knowledge of building construction.
Effects of climatic conditions on fire.
Use of available fire-fighting apparatus and equipment.
How to recognize potential exposures.
What his responsibilities are.

Rubber Suit, for Use in Ammonia Fires, with Atmos Mask (One Hour's Service)

Lead line is shown at feet of figure.

How heat travels.
How to enter buildings and provide line of retreat.
When, where and how to ventilate.
Safe working practices.
Trade terms used.
Ability to recognize types of buildings.
Hazards due to water absorption, weight and expansion of certain kinds of materials.
Hazards due to chemical reactions.

Third Step—Sources of Information in Connection With Step No. 2 May Be Gotten by the Officer Through the Following Agencies:

Working with an experienced officer.
Technical fire magazines.
Convention proceedings.
Officers Fire College.
Underwriters laboratories.
U. S. Bureau of Standards.
Inspection of buildings.
Experience at previous fires.
Daily reports of U. S. Weather Bureau.

Fourth Step—Methods of Instruction

Illustrated lectures.
Practical demonstrations.
Conference discussion.
Individual study.

The previously mentioned four steps are carried out in each class and of course conform to the particular subject lectured on.

Each instructor is required to lecture on his respective subject, once during the morning class and again in the afternoon class, no two different days of the week, namely, twice on Monday and twice on Thursday, for a total of four lectures.

By conducting our classes on each Monday and Thursday of each week, it enables us to get each individual officer of the department to attend each individual lecture but once.

Instructions given to the officers in our college are for a duration of five weeks, or two new subjects and two different instructors each week, until the course is over.

Each instructor is allowed one hour and thirty minutes time during each class, to deliver and have discussed the particular subject allotted him.

All officers attending these class lectures do so, while on their regular tour on-duty.

At the completion of the college term, all officers are required to send in a report to the Chief Engineer of the department, stating what knowledge he had gained through the lectures given him.

We have from 22 to 23 officers reporting for each class. However, due to vacancies in certain companies the average attendance is from 18 to 20 officers.

On an average there are four officers from each individual battalion required to attend either the morning or the afternoon class. This manner of assignment guards against the possibility of having the officers of certain battalions all present at one class and having all acting officers in charge of companies at fires, during the absence of the regular officer who would be attending school.

After the close of each class all officers are required to return to their respective company quarters to finish their regular tour of duty.

Mostly all of our subjects and lectures are illustrated by diagrams on paper or black-boards. Practical demonstrations are given in connection with others.

Questions are asked, which officers are called upon to discuss and answer.

Under step four, as previously stated, all classes are closed with the method of conference discussion on past experience and type of situations as applying to the particular subject lectured on.

A Sample Lecture at the College

The following lecture, on the subject of "Covering Exposure Fires," by Battalion Chief William Sauerwein, of the Newark Fire Department, will show the thoroughness with which the subjects are presented in this college:

Subject: Covering Exposure Fires

By Batt. Chief William Sauerwein

Objective: To teach officers the causes of exposure fires and the method of handling them.

Intentionally or unintentionally, fires are constantly being caused. The smallest flame is ambitious of becoming a large blaze and will do so if it has the chance. It is a common saying among us fire fighters that frequently the first five minutes at a fire are of more importance than the next five hours.

The spread of a fire is a question of combustible materials. However, one fact that must not be overlooked in considering either the cause or spread of such fire, is that at every phase of its existence, fire is and will be subject to natural laws.

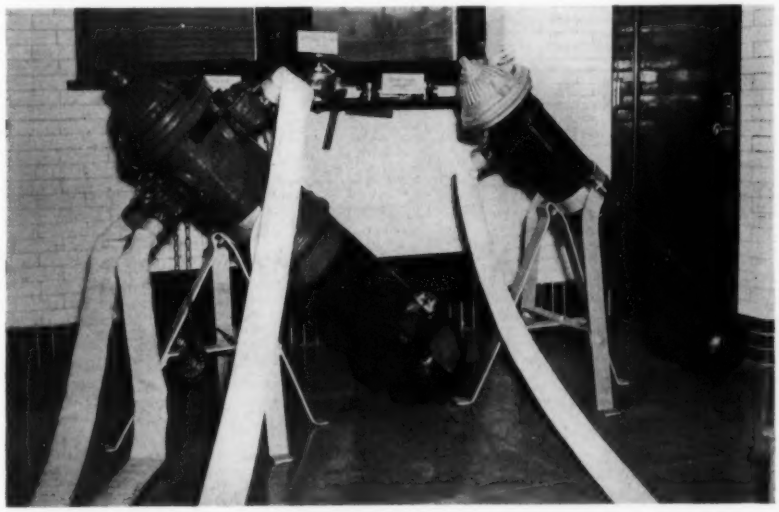
There is nothing truly mysterious about fire and therefore it is a proper subject for scientific study.

Fire is one of the most necessary and also one of the most dangerous of all elements. When it does become dangerous and destructive to life and property, it is then that the Fire Department is called upon to combat it.

So, to members in the fire service, an exposure fire is any blaze that may extend from its place of origin, or to another building, or to quite an independent unit of the same building that it originated in; the former instance being termed as external exposure and the latter as internal exposure.

Causes of Exposure Fires

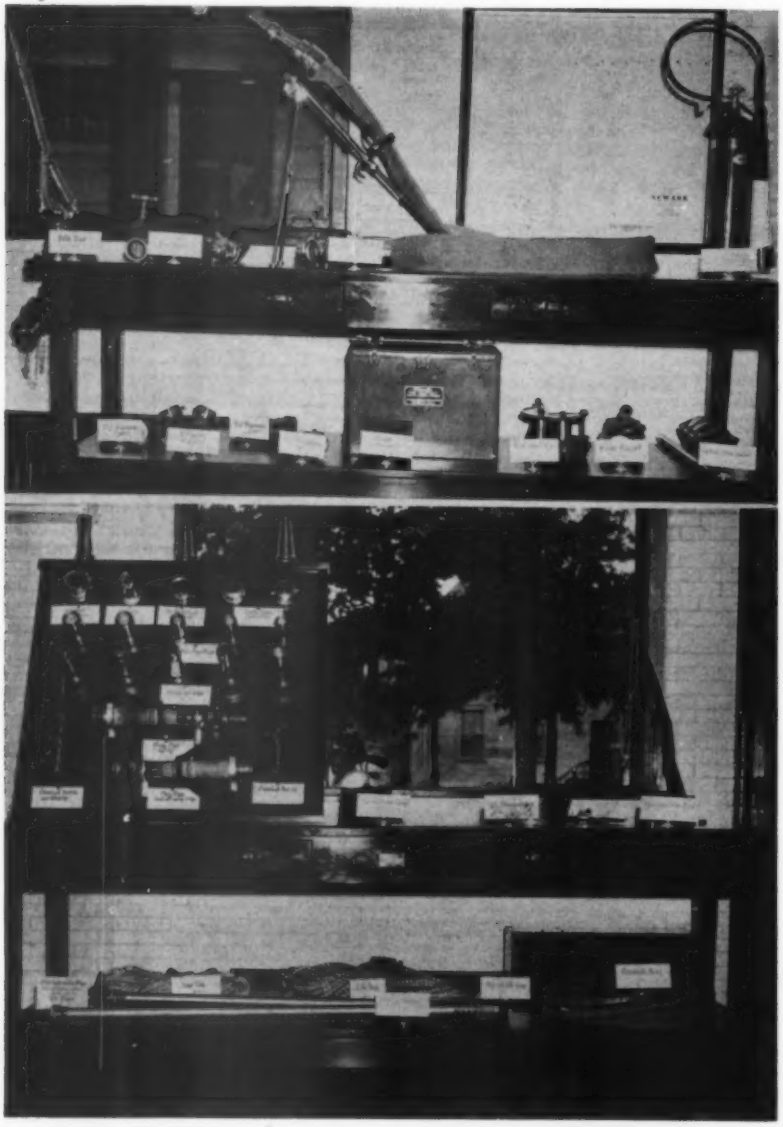
There are quite a number of causes, which, if operating singly or in com-



Types of Hydrants, with Connections. On Shelf, Left to Right, Heffernan Valve and Double Female Connection

bination form, give rise to exposure fires. Some of these causes may be enumerated as follows:

1. A blaze in an individual building may pass beyond control, that is, beyond the possibility of it being localized or confined to the place of its inception, due to the size of the structure.
2. Because of the combustible and quantity of material used in forming the structure.
3. Because of the combustible material stored or manufactured within the structure.
4. Because of structural defects, fire may extend outward through wall or roof openings such as doors, windows, skylights, ventilators or roof scuttles. Again it may enter through such openings from adjacent buildings.
5. Because of the presence of wide open spaces, such as boulevards, parks or lots, which allow heat waves to influence its spread.
6. Because of flying brands and embers.
7. Because of the direction and velocity of prevailing winds or general weather conditions.
8. Because of the inability of neighboring structures to withstand the effect of heat waves or radiation of heat generated by the fired building.



Various Types of Nozzles, Pipes, Etc., Used in Fire College

Upper Picture—On top of table, L. to R.—Deck pipe, Bresnan distributor, Eastman pipe holder, with 3 into 1 siamese and carbon dioxide extinguisher. Below Table, L. to R.—2½-inch siamese, 2 into 1; 2½-inch into 3½-inch siamese; 2½-inch siamese, 2 into 1; 2½-inch siamese, 2 into 1; foam container; roof hose hoist; Snyder shut-off and Cooper hose jacket. Lower Picture—On top of table, L. to R.—(On Panel) Universal connection, reducer, double female connection, double male connection, deck pipe tips, deluge set tips, play pipe 1⅛-inch tip, chemical nozzle and adapter, play pipe shut-off nozzle, 1-inch tip and chemical nozzle. (On Table)—Electric hand lamp, life line canister and shoulder life line gun. Under Table, L. to R.—12-foot extension pipe shut-off spray nozzle, to be used for oil fires; lead line, life line, spray nozzle, box for life gun and chemical hose.

Danger of Conflagration Hazard

If for any reason the before mentioned eight causes were to present themselves individually in cases of fire within a structure, the chances of confining such fire to its point of origin are highly successful. However, if several causes, as mentioned, were operating in a combined form, the chances of confining the fire to its least possible area become problematic.

If all the causes as stated were to operate in one solid combined form, then the exposure hazard would be the danger of adjoining buildings becoming ignited, thus creating a second and greater hazard, namely called, Conflagration Hazard.

This conflagration hazard would be increased greatly if in such sections of a city or town classified as congestedly combustible districts within such city or town.

Virtually every building is unable to resist the intense heat developed by a fire in a neighboring structure or group. Under such an attack windows may crack or melt, enabling actual flame to communicate itself to contents in these structures, causing a large amount of damage before they finally are extinguished.

Again radiant heat generated in the building on fire may enter through unprotected windows or doors as mentioned in cause four.

Such windows, doors or other openings may in themselves be intact, in that they are not open or broken; if however the contents of such an adjacent building is allowed to be placed up against or in close proximity to such openings being subjected to this generated heat from the structure on fire for a considerable length of time, such materials in the path of this generated heat will become ignited in due time and a second fire be in progress. Such generated heat, gases or flames will later pass out again and re-enter other such openings on upper or lower floor levels, until the entire adjoining structure has become involved with fire from the first building.

Safeguarding Against Exposure Hazards

When considering means for safeguarding against this exposure hazard, industrial and mercantile establishments may be classified under two general headings, namely:

1. Those with non-combustible walls, such as brick, concrete, stone or terra cotta.
2. Those with combustible walls, such as wood, metal clad wood construction or brick veneered over wood.

In connection with these two types of construction, the degree of hazard in such structures may be classified according to the contents carried therein, namely, severe, moderate or light.

In a structure erected, as stated under point 1, of fire-resistive materials throughout, danger of the fire spreading by means of internal exposures is minimized by the fact that such a building will generally have also all internal openings protected, such as automatic fire doors, enclosed elevators and stairways. The exterior openings such as windows, doors, skylights or other roof openings will be of metal, metal covered and wired glass.

The second class, as mentioned, offers very little resistance against fire, due to the fact that the construction consists of combustible materials with unprotected window, door and roof openings. In this type of construction, fire

cannot be so readily confined to its point of origin and therefore is the greater hazard of both type structures.

Buildings having brick walls of adequate thickness and strength, unrelieved by openings of any kind, constitute of course the best of fire stops. But, safe in exceptional cases, such as warehouses and similar tenancies, adequate window, door and ventilation openings are of the first concern.

Asbestos Suit, with Helmet, Gloves and Rope, All Asbestos

To protect such openings, science has evolved the following devices:

1. Wired glass in all metal frames.
2. All metal or metal covered fire shutters.
3. Automatic steel rolling doors or shutters.
4. Outside window, door or roof sprinklers or water curtains.
5. All metal or metal covered inside passage or outside entrance doors.

Preventing the Spread of Fire

The first and most important step in the preliminary part of fire operations, is, in the event of being unable to extinguish the fire quickly, is to be on the alert and take proper action to prevent its extension. This can be done by the placing of a line or lines of hose at such exposed danger points so as to confine the fire to as small an area as possible.

Therefore, consideration must be given to the following conditions:

1. Intensity of the fire and the possibility of its extension.
2. Promptly cover all internal as well as external exposures with proper sized hose streams.
3. Direction and velocity of the wind and general weather conditions.
4. Prompt consideration to be given to danger by radiated heat on wired or plain glass or iron shutters on adjoining structures by ignition of materials at or near such windows which will allow fire to extend itself.

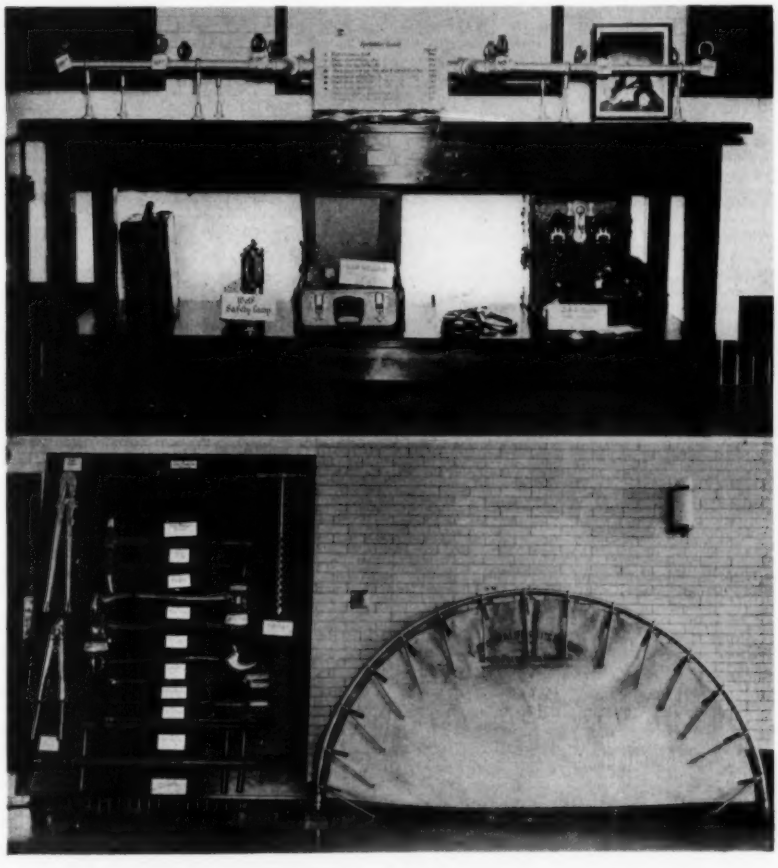
Points to Be Remembered in Connection With Covering Exposures

When a fire occurs, excitement and confusion often prevail, which results in water being poured into a structure at points where it really does more damage than good. Therefore, all fires should be scientifically and carefully fought by covering the exposures in order to prevents its spread. This can be done, if the officer upon his arrival looks the situation over carefully, by noting such possible exposures.

The intensity of the fire and its possible rapid spread may be gauged by the construction and the contents of the building, if for instance, materials such as nitro-cellulose are present and by noting heat radiation. Sometimes heat as high as 2,500 degrees Fahrenheit may be generated, capable of melting wired glass, warping and buckling of unprotected structural metal supports and spalling of masonry. This type fire most generally furnishes its own ventilation, by blowing out walls, partitions, windows, skylights or roofs, which may ignite adjoining buildings, either by actual flame contact or heat radiation. If, at a fire of this nature no explosion has taken place on your arrival, then by all means furnish ventilation as rapidly as possible, to avoid the explosion and at the same time have fully charged streams ready to back you up in opening such exposures, necessary to furnish the required ventilation.

Where proximity of adjoining structures, as referred to, and where extent and intensity of a fire warrants it, an officer should be able to prevent the possibility of further extension of the fire in this manner, by covering the external exposures in such adjacent building. This can be done by covering the exposures with streams of water from the outside or if the adjacent structure is equipped with stand-pipes, men should be ordered to enter the building and connect to such floor outlets as necessary, remove contents away from the windows exposed to the path of heat radiation and wet down walls or window exposures directly in the path of the fire.

Wired glass when subject to sufficient heat will crack. Although it will crack, it will remain in place even when struck by streams of water; unless through sheer hotness it fuses and melts. It will stand heat up to approximately 1,600 degrees Fahrenheit, whereas plate or ordinary glass, not being reinforced, melts and cracks and quickly falls long before such a temperature is reached.



Upper—Various Types of Sprinkler Heads, Safety Lamp, Inhalator, Life Belt and Gas Mask. Lower—Fire Department Tools and Life Net Used in College

Wind Generated by Intense Heat

Remember, the more extensive the

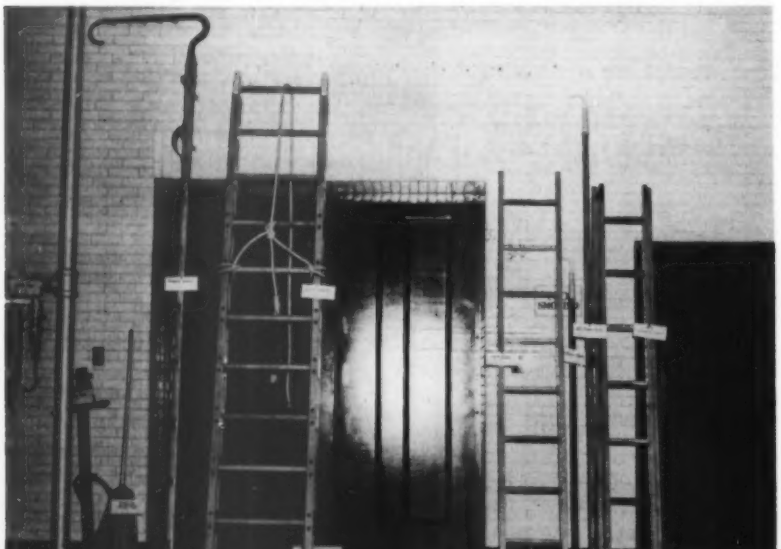
fire, the more likelihood of a more troublesome wind, for it is a recognized fact that big fires have a tendency to create their own draft. This is due to the enormous volume of rising heat which causes a partial vacuum into which cold air rushes.

Fires Should Be Fought from Leeward Side

All fires wherever possible should be fought from the leeward side. Wind of a very high velocity will break up the delivery of large sized streams, rendering them useless, especially when they are to be used for the cooling down of radiated heat areas. Streams should never be pointed into the wind directly, but rather from sheltered or from slightly sideward positions.

Where materials are in reach of actual flame, then fire may be said to extend by actual flame contact.

When materials become ignited by exposure to heated air, it can be said that fire extends by heat radiation.



Ladders Used in the College

L. to R.—Stand pipe, pipe stick, broom for brush fires, pompier ladder, ladder hitch; (beyond large door) 10-foot ladder, plaster hooks, and 14-foot extension ladder.

When any material is ignited by contact with another heated solid body, then fire can be said extended by conduction.

It, therefore, can be seen that any exposure in the path of a fire must be considered separately, according to the before mentioned ways of ignition, in order to provide the necessary protection to such exposures to confine the fire.

Exposures above the level of a fire are far more susceptible to ignition by heat radiation than those below the fire level, for the simple reason that heat and fire naturally ascend. The higher such exposures are above the fire level, the more dangerous they become, due to the ineffectiveness of streams reaching them.

Eastern Fire Chiefs Expect Big Convention

It's "On to Washington" for the Eastern Association of Fire Chiefs. The annual convention is to be held in the air conditioned Mayflower Hotel, Washington, D. C., on June 3-5, with an unusual program arranged for the visitors.

Dr. David J. Price, Chemical Engineering Division, U. S. Department of Agriculture, is to open his laboratories below Arlington, Va., to the visiting Chiefs, and will demonstrate some of the latest information regarding dust explosions.

And Dr. Harry M. Archer, Honorary Medical Officer, New York Fire Department, who has the reputation of holding his audiences spellbound, is to draw on his many years of experience in rolling to fires, in his talk on "First Aid—What Every Fireman Should Know."

The response from the manufacturers has been far above expectations. At first arrangements were made to hold the exhibits in the Italian Gardens, but so many requests were received for exhibit space that the much larger Promenade will be used. Chief William J. Lutz, Wilmington, Del., Chairman of Exhibits Committee, will soon mail out the floor plan of this room which has space for thirty-seven exhibit booths.

Through the cooperation of the Police Department, a section of La Salle Street, which adjoins one side of the hotel, will be roped off so that apparatus manufacturers may park their apparatus there for the visitors to inspect.

Meetings will be held in the Chinese room which has a seating capacity of three hundred.

Beside the talks by Doctors Price and Archer, the following papers will be presented:

"What Can We Do to Shorten the Gap Between the Start of the Fire and the Receipt of the Alarm?" by H. A. Friede, Superintendent, Fire Alarm Telegraph, Washington, D. C.

"Necessity of Man Power to a Fire Department," by Deputy Chief John J. T. Waldron, New York Fire Department.

"Are We Expecting Too Much of Our Fire Apparatus?" by Chief Ross B. Davis, Philadelphia.

"The Benefits of Salvage for Small Departments," by Chief Edward H. Warr, Salvage Corps, Baltimore, Md.

One afternoon of the convention will be devoted to a visit to the National Bureau of Standards. During the meetings there will be five round table discussions.

A banquet with entertainment has been arranged for Friday evening. There will be other entertainment features to be announced later. Those planning to attend, are requested by the association, to make their hotel reservations early.

Chiefs See Sprinkler Tests

An interesting meeting of the Fire Chiefs' Club of Massachusetts was held on March 19 at the plant of the Rockwood Sprinkler Company, Worcester. A demonstration was given of dual guard system of automatic sprinkler protection.

William J. Carroll, of the Rockwood Sprinkler Company, acted as host and luncheon was served in the factory. Chief Charles L. McCarthy, Worcester Fire Department, President of the club, conducted the meeting and introduced Mr. Carrol. Norman D. Sherwood was in charge of the demonstration. There were 125 members of the club at the meeting. A committee was appointed to co-operate with a committee from the Massachusetts Fire Prevention Association in regard to a conference with the State Fire Marshal on fire prevention rules and ordinances. This committee will consist of Chief McCarthy, Chief Frank F. Dickinson, Brockton; Chief William H. Hill, Belmont; Chief William C. Mahoney, Peabody; Chief Robert M. Tappen, Gardner; and Chief Ray D. Wells, Falmouth.

HARRY BELKNAP.

Pennsylvania Firemen Cooperate

During the recent flood at Louisville, the Firemen's Association of Pennsylvania sponsored a special train to that city to convey men and apparatus to the stricken city. The men remained in service for ten days, and while there answered several four-alarm and two-alarm fires, and aided the local men who had been on continuous duty.

The train carried men from Chester, with one pumper; men from Harrisburg, with a pumper and a Chief's car; men from Wilkes Barre; firemen from Reading, and two pumpers; men and a pumper from Erie, Wayne and Lancaster, and men and two pumpers from Pittsburgh. The special train was in charge of President Michael E. Clark, Chief of Williamsport and Secretary Charles E. Clark, Wayne.

The day before this train left, Philadelphia had sent two companies and eight men.

The association was prepared to send fifty more companies into the flooded area if needed.

How the Community Can Help the Fire Department

Need of Heartiest Cooperation and Intelligent Understanding by Citizens Is Stressed in Suggested Radio Talk by Chief

By T. ALFRED FLEMING
Supervisor, Conservation Department
National Board of Fire Underwriters

IF there is one department of the city government that the public should know intimately—more than another—it is the Fire Department. In many instances that is the one they know least about. They have a certain inherent faith in the Fire Department. They feel sure of full protection against loss of life and property by fire, but do not take time to acquaint themselves with the general efficiency, the progressive methods used, or the personnel of those in charge.

Little children go to schools, helpless invalids are carried to hospitals and public wards, are held behind barred windows and closed doors; yet, no special thought is given as to how they are to be protected in case of fire. Yes, we have wonderful faith in our Fire Department, but know little about it! What a sad commentary on any relationship so important as the protection of life and property.

The Fire Department is the "peace time" army of any city, ready to battle night or day in all kinds of weather, and yet, frequently they have to fight their hardest battle in endeavoring to secure the equipment and supplies needed for proper operation, when community knowledge, interest and support would have made such a struggle unnecessary.

Lack of Public Cooperation Handicaps Firemen

When the fire bell sounds, each fireman realizes that it may be his last run, for more firemen lose their lives responding to and returning from fires than from actual fire duty. It is true that some of the casualties are the result of slippery streets, but most of them are occasioned by the failure of the public to cooperate in clearing the streets and making an early response possible. Cars race with the Fire Department to get to the fire, then park in the fire area, either in the middle of the street or up against a fire plug, making it impossible for a quick layout. If a second alarm has to be made, sometimes the extra companies are unable to get through the jam of automobiles left anywhere on the streets. Try to picture a fire where lives are at stake, children in school or patients at the hospital, where valuable time is lost from outside interference; a piece of apparatus may be wrecked and firemen sacrificed simply because the community fails to realize the importance of giving the Fire Department clear right of way and all the outside help possible.

T. Alfred Fleming

Get Acquainted with the Fire Department

Why not get acquainted with the members of your Fire Department? They are a splendid group of fellows. Learn their routine, attend their sessions at the drill tower, see how they develop and sustain their efficiency. They are ready to be on the road in thirty seconds, regardless of the hour or the condition of the streets, to answer any emergency whether it be fire, sunstroke, drowning or asphyxiation, and to render expert first-aid for the saving of life.

Mr. Fleming, who is an expert in contacting the public in firemanic matters, has made some admirable suggestions for a radio address by the Chief of the Fire Department in the accompanying article. He suggests that local color can be added to advantage in using it. It should result in a closer relationship between the Fire Department and its Public.

Dangers from Carbon Monoxide

Few realize that a smoke-filled building is full of poisonous gases, probably those most feared—carbon monoxide, hydro cyanic, ammonia, nitric, hydrogen sulphide, and many others—all the results of the burning of the ordinary material found in the building. Carbon monoxide is in abundance and is as deadly to breathe as if it were coming from the exhaust of your motor. It fills the building and when the temperature of the fire reaches about 1,100 degrees, this gas ignites and causes a serious explosion sometimes known as back draft. The firemen open windows and roof to enable these gases to escape in order to avoid a tragedy and also to enable them to get into the building to attack the fire with reasonable safety to themselves.

Nitrous Gases Deadly to Inhale

At the Cleveland Clinic fire, X-ray films burning produced nitrous gases which took the lives of over 120 patients and visitors. The same fumes are found in any fire in a building where pyroxylin products are present. Tips and handles of some umbrellas, shoe heels, pyroxylin toys and all such apparently harmless substances, when burning, are a dreadful menace to the lives of firemen.

Men exposed to even small quantities of this nitric acid gas may drop in their tracks hours after the fire has been extinguished. It doesn't need a conflagration to put firemen's lives in danger. An incipient fire

may call out more ambulances than a major conflagration.

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There is something we ought to know about the construction of our residence and commercial buildings, which not only greatly handicaps the Fire Departments, but also causes a total loss in buildings where the fire was small when it was discovered. Sometimes the walls and partitions are all open from bottom to top, without any fire-stopping. Each one of these openings, and there are over a hundred in an ordinary dwelling, acts as a flue to draw the superheated air, gases and fumes upward, spreading them over the entire building. These gases concentrate at the top of the building and when certain temperatures are reached, break into flames spontaneously. Thus the whole building is on fire when proper care in construction would have confined the fire to its place of origin. Any unprotected vertical opening, such as a clothes chute, dumbwaiter, or stairway will act the same way. The thoughtful home owner will call in the officers of the Fire Department to survey his buildings and make suggestions as to improvements or possible changes in construction, not only as a safeguard to the lives of his own family but also as an aid to the Fire Department, if they ever have to come officially to pay him a visit.

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Each piece of apparatus is inspected daily and maintained so as to give highest efficiency, under standard requirements, at all times. Companies drill with their respective apparatus regularly to familiarize themselves with each and with the special tools of all types used in added equipment. They practice shooting the life line and operating the acetylene cutting torch. They study the application of the different hand extinguishers, the proper and safe use of the life net, and the methods of rescue work that yield the best results with a minimum of danger. This brings in the various ladder evolutions and methods of carrying hose to the different floors of the building. Gas masks must be well chosen to cope with the hazards to be expected and each man is trained, not only in their proper adjustment, but also in their continual use.

In addition to their regular training, the Chief and selected members of your Fire Department attend the state school for Fire Department efficiency, conducted under the auspices of the Fire Chiefs' Association of the state, where the latest improvements in the fire service are discussed and demonstrated. Thus the entire department is kept abreast with the latest and most helpful developments in fire control.

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Setting: Term used in boiler or furnace installations to denote the enclosing walls.

Shoddy: Picked rags, shredded or torn apart by pickers. May be wool or part cotton.

Questions

(To be answered in next issue)

1. What are the hazards incidental to fighting fires in (a) grain elevator, (b) coal pockets.
2. You are the first officer to arrive at a fire in a garage, 100 x 100 feet area and one story high. Garage is well filled with automobiles and fire has involved the rear quarter of the building. You are in charge for ten minutes. State fully what actions you would take until relieved by your superior.

False and True Questions

(Is each question false or true? Answers in next issue.)

3. T F—There is one class of fire extinguisher which is effective on all types of fires.
4. T F—Seepage of water through valves of interior standpipes frequently ruins hose.
5. T F—All extinguishers not labeled by Underwriters' Laboratories are without merit and are therefore ineffective.
6. T F—Charging of soda and acid extinguishers with improper amount of ingredients increases the possibility of explosions.
7. T F—Firefoam will coat vertical surfaces almost as well as horizontal surfaces.
8. T F—Brush fires burn slowly with the wind and rapidly against the wind.
9. T F—On account of persons afflicted with pyromania being abnormal, they are usually easy to apprehend.
10. T F—Carbon-dioxide, due to its penetrating qualities and cooling effect, is good for ship and cargo fires.
11. T F—Dry powder tubes and hand grenade extinguishers are recognized as effective fire extinguishing agents.
12. T F—Little damage to surrounding materials is caused when a fire is extinguished with carbon tetrachloride.
13. T F—Salt water is less dangerous than is fresh water for use around "live" electric wires.
14. T F—In fighting oil tank fires the so-called "foams" are very successful.
15. T F—Contents of a building have no appreciable effect in spreading fire in fireproof buildings.
16. T F—Unprotected openings are never found in apparently good fire walls.
17. T F—Knowledge of the construction of the walls, partitions and flooring is important for successful fire extinguishment.
18. T F—Setting fire in the night to a building, in which there is at the time some human being, is arson in the first degree.
19. T F—Familiarity with buildings does nothing to lessen the hazard to firemen working at a fire when the building is largely involved.
20. T F—Pump tank types of extinguishers are easier to recharge than are the soda and acid types.

Completion Statements

21. Confining a fire to a definite path up through a building to the atmosphere may be accomplished by proper .....
22. For short lines, the diameter of the nozzle may be.....the diameter of the hose.
23. The diameter of hose is the diameter as measured on the.....of the hose.
24. Wire glass melts at about..... degrees of Fahrenheit.
25. When a fire on top of a metal plate sets fire to wooden planking below, the fire so caused is said to be caused by .....

Answers to Questions in Previous Issue

1. Immediately notify the Water Department, giving exact location, if possible, of the break in main. Request immediate action, for such a break may bleed the system and seriously interfere with the operations of the Fire Department. The Water Department, upon receiving the information, will segregate the broken section by closing valves on mains leading to it.

The Fire Department can continue to use the water system after the flow from the broken section has been stopped, but cannot draw any water from the mains isolated with the broken section. Closing the valves supplying this section shuts off the water from the section as well as other mains between it and nearest controlling valves.

2. Precautions which should be observed include: placing of storage tanks far enough apart to reduce exposure hazard to a minimum and to enable the Fire Department to operate effectively in the event of fire; construction of fire walls around every battery of stills and breaking-up of fire areas in and among units of any battery of stills (where possible) to prevent a spreading of burning oil should a break occur; installation of sufficiently large pumps with proper connections to drain off the contents of any container in the event of fire; proper construction of supports for vapor lines, flow lines, charging lines, and in fact all oil and vapor lines. Where such lines are improperly supported, such as on bare metal work, such metal work may collapse under a severe fire, bursting the pipe lines and thus increasing intensity of the fire. Thorough inspection must be made of all equipment periodically to head off any trouble which might develop. Proper dikes must be maintained around all oil tanks so that in the event of a tank rupturing at a fire the oil will not spread to adjacent tanks. If extensive railroad sidings are present along the plant, provisions must be made so that avenues of approach are always available for fire apparatus as well as for hose lines which may have to be stretched in.

The plant should maintain a proper foam installation with permanent piping, as well as portable foam apparatus of the foam generator type. It is not usually possible to cover the entire establishment with permanent type installation, and for this reason the lesser hazards about the plant may be taken care of with proper foam generator equipment. Steam boilers, too, should be provided at hazardous points for furnishing steam for fire fighting operation. Steam is only effective on oil fires where it can be confined over the fire. It is not effective, for instance, where the roof of a tank has blown off. Where a fire starts in an oil storage tank in the usual manner, and blows the roof off, steam can only be used for protecting adjoining tanks against fire. Steam is very effective for operation on any fire where, as noted above, it can be confined over the burning oil.

Water streams are very essential for cooling down exposed tanks, and exposed structural work. And for this reason a proper water supply with a sufficient number of hydrants scattered over the property is most essential.

Fog nozzles are coming into use for handling the smaller oil fire.

The oil fire-fighting equipment should be handled by plant employees—usually a Fire Brigade Chief, who is thoroughly familiar with all valves, piping and equipment. Municipal fire department chief should also be familiar with the location of apparatus in the plant, so that in the event of fire occurring when the local Fire Brigade Chief, or other plant official, is not at hand, the department will not be handicapped in operating on the fire. Large oil establishments such as described in the question usually have their own Fire Brigade, well trained in the handling of oil fires.

City equipment which would be most effective for fighting a fire in such a plant would include foam generators and pumping engines—pumping engines to provide the water under pressure for operating the foam generators. This is necessary in the event that the water supply of the plant should go out of commission due to explosion, or other cause.

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(To be answered in next issue)

1. What are the hazards incidental to fighting fires in (a) grain elevator, (b) coal pockets.
2. You are the first officer to arrive at a fire in a garage, 100 x 100 feet area and one story high. Garage is well filled with automobiles and fire has involved the rear quarter of the building. You are in charge for ten minutes. State fully what actions you would take until relieved by your superior.

False and True Questions

(Is each question false or true? Answers in next issue.)

3. T F—There is one class of fire extinguisher which is effective on all types of fires.
4. T F—Seepage of water through valves of interior standpipes frequently ruins hose.
5. T F—All extinguishers not labeled by Underwriters' Laboratories are without merit and are therefore ineffective.
6. T F—Charging of soda and acid extinguishers with improper amount of ingredients increases the possibility of explosions.
7. T F—Firefoam will coat vertical surfaces almost as well as horizontal surfaces.
8. T F—Brush fires burn slowly with the wind and rapidly against the wind.
9. T F—On account of persons afflicted with pyromania being abnormal, they are usually easy to apprehend.
10. T F—Carbon-dioxide, due to its penetrating qualities and cooling effect, is good for ship and cargo fires.
11. T F—Dry powder tubes and hand grenade extinguishers are recognized as effective fire extinguishing agents.
12. T F—Little damage to surrounding materials is caused when a fire is extinguished with carbon tetrachloride.
13. T F—Salt water is less dangerous than is fresh water for use around "live" electric wires.
14. T F—In fighting oil tank fires the so-called "foams" are very successful.
15. T F—Contents of a building have no appreciable effect in spreading fire in fireproof buildings.
16. T F—Unprotected openings are never found in apparently good fire walls.
17. T F—Knowledge of the construction of the walls, partitions and flooring is important for successful fire extinguishment.
18. T F—Setting fire in the night to a building, in which there is at the time some human being, is arson in the first degree.
19. T F—Familiarity with buildings does nothing to lessen the hazard to firemen working at a fire when the building is largely involved.
20. T F—Pump tank types of extinguishers are easier to recharge than are the soda and acid types.

Completion Statements

21. Confining a fire to a definite path up through a building to the atmosphere may be accomplished by proper .....
22. For short lines, the diameter of the nozzle may be.....the diameter of the hose.
23. The diameter of hose is the diameter as measured on the.....of the hose.
24. Wire glass melts at about..... degrees of Fahrenheit.
25. When a fire on top of a metal plate sets fire to wooden planking below, the fire so caused is said to be caused by .....

Answers to Questions in Previous Issue

1. Immediately notify the Water Department, giving exact location, if possible, of the break in main. Request immediate action, for such a break may bleed the system and seriously interfere with the operations of the Fire Department. The Water Department, upon receiving the information, will segregate the broken section by closing valves on mains leading to it.

The Fire Department can continue to use the water system after the flow from the broken section has been stopped, but cannot draw any water from the mains isolated with the broken section. Closing the valves supplying this section shuts off the water from the section as well as other mains between it and nearest controlling valves.

2. Precautions which should be observed include: placing of storage tanks far enough apart to reduce exposure hazard to a minimum and to enable the Fire Department to operate effectively in the event of fire; construction of fire walls around every battery of stills and breaking-up of fire areas in and among units of any battery of stills (where possible) to prevent a spreading of burning oil should a break occur; installation of sufficiently large pumps with proper connections to drain off the contents of any container in the event of fire; proper construction of supports for vapor lines, flow lines, charging lines, and in fact all oil and vapor lines. Where such lines are improperly supported, such as on bare metal work, such metal work may collapse under a severe fire, bursting the pipe lines and thus increasing intensity of the fire. Thorough inspection must be made of all equipment periodically to head off any trouble which might develop. Proper dikes must be maintained around all oil tanks so that in the event of a tank rupturing at a fire the oil will not spread to adjacent tanks. If extensive railroad sidings are present along the plant, provisions must be made so that avenues of approach are always available for fire apparatus as well as for hose lines which may have to be stretched in.

The plant should maintain a proper foam installation with permanent piping, as well as portable foam apparatus of the foam generator type. It is not usually possible to cover the entire establishment with permanent type installation, and for this reason the lesser hazards about the plant may be taken care of with proper foam generator equipment. Steam boilers, too, should be provided at hazardous points for furnishing steam for fire fighting operation. Steam is only effective on oil fires where it can be confined over the fire. It is not effective, for instance, where the roof of a tank has blown off. Where a fire starts in an oil storage tank in the usual manner, and blows the roof off, steam can only be used for protecting adjoining tanks against fire. Steam is very effective for operation on any fire where, as noted above, it can be confined over the burning oil.

Water streams are very essential for cooling down exposed tanks, and exposed structural work. And for this reason a proper water supply with a sufficient number of hydrants scattered over the property is most essential.

Fog nozzles are coming into use for handling the smaller oil fire.

The oil fire-fighting equipment should be handled by plant employees—usually a Fire Brigade Chief, who is thoroughly familiar with all valves, piping and equipment. Municipal fire department chief should also be familiar with the location of apparatus in the plant, so that in the event of fire occurring when the local Fire Brigade Chief, or other plant official, is not at hand, the department will not be handicapped in operating on the fire. Large oil establishments such as described in the question usually have their own Fire Brigade, well trained in the handling of oil fires.

City equipment which would be most effective for fighting a fire in such a plant would include foam generators and pumping engines—pumping engines to provide the water under pressure for operating the foam generators. This is necessary in the event that the water supply of the plant should go out of commission due to explosion, or other cause.

3. False; 4. False; 5. True; 6. True; 7. True; 8. True; 9. False; 10. True; 11. True; 12. False; 13. True; 14. True; 15. True; 16. False; 17. True; 18. True; 19. True; 20. False; 21. True.

22. .....four-way valve.
23. .....farther.....
24. .....good.....
25. .....hazardous.....
26. .....along the walls.

NECESSITY FOR FIREPROOFED DRAPERIES IN PLACES OF PUBLIC ASSEMBLY

No Flimsy Draperies or Decorations Should Be Allowed, in Such Places, Unless Properly Fireproofed — Even When Treated with Such Solution, Decorations Should Be Tested Periodically

By Chief Ross B. Davis
Philadelphia, Pa.

Chief Ross B. Davis

IN recent years there has been a great increase in the number of night clubs, restaurants, and other places of public assembly, due to the fact that many of these establishments are open without due care and precaution as to the safety of the patrons, particularly the safety from fire hazard. They are usually opened in a careless, haphazard manner and no attention is given to the details of safety.

Recently, there appeared in public print a story that in a night club in one of the large cities on the west coast, a catastrophe occurred which could have been avoided if the proper precautions had been taken. In this particular case a female entertainer was performing with a torch (which is an open flame) and ignited inflammable draperies. Due to the fact that these draperies and decorations were highly inflammable, there was a rapid spread of fire, thereby preventing the egress of the patrons, and as a consequence five lives were lost.

If the draperies had been of a non-inflammable type, or had been treated to make them flame-proof, the spread of fire would have been prevented and more than likely patrons could have escaped without any loss of life, which resulted from the panic.

Hazards of Inflammable Draperies

The same condition exists in theatres and motion picture houses throughout the country, due to the fact that proper safeguards and precautions are not used and no license law exists, as in our city. In Philadelphia, it is a hard and fast requirement that all draperies, fabrics, scenery, etc., must stand a rigid test by the Fire Bureau and Fire Marshal's office, before their use will be allowed and the place licensed. As a result of this precaution, the fires are usually confined to the area of origin, thereby eliminating the rapid spread, which would ensue if the materials were not of the non-inflammable type. In some cases screen and gauze are used, which materials are of the lace variety or light curtain webbing, which we do not allow at all, as they could not be fire-proofed and when hung in close proximity to a high-powered lamp, used for scenic effects, spontaneous combustion generally results and flames burst out.

In all cases we do not allow, outside of the footlights, any lighting or inflammable material to be hung on the audience side of the proscenium wall, as when the fire curtain drops it seals all the inflammable materials on the stage part of the theatre, thereby protecting the audience from flying debris, which results if draperies are hung on the side of the wall which the audience occupies.

Paper Decorations Around Lamps

Another hazard found in theatres and moving picture houses, resulting from the desire to have artistic effects, is the placing of paper and cardboard decorations around incandescent lamps, which are often of high wattage. As you know, this creates a distinct fire hazard, due to the fact that the heat from the lamp will ignite these decorations, etc., if they are not fireproofed. This is a growing practice and extreme care should be used wherever decorations of this type are involved.

Fireproofing Not Absolutely Sure

The fact that draperies and decorative materials are fire-proofed does not entirely eliminate the fire hazard, although it does minimize it to a great extent. Whenever inflammable materials are fireproofed, if they are subjected to excessive heat for any length of time, the fire-proofing in that particular area is more or less destroyed, so that caution must be used, and although the materials are fire-proofed they should be kept as far away from heat producing devices as is possible. This is especially true of spot lights, flood lights, etc., as in some cases, climatic conditions extract the fireproofing and make it flammable, although it was treated as non-inflammable. Due to this condition, it is practical that whenever articles are not fireproofed in the manufacture, and are treated with these solutions, it is advisable to test them at least once a month to see that they are still non-inflammable.

Dangers from Air Conditioning Systems

Another serious fire hazard that recently presented itself is the construction of ventilating and air conditioning systems in places of public entertainment. In Philadelphia it was discovered that in many instances the ducts used to transmit the cooled air were made of a substance known as Celotex, some types of which are very inflammable. A peculiarity of this substance is that it is not only highly inflammable, but it is also very difficult to extinguish in the event of its becoming ignited, due to the glow-retaining properties which it possesses, thereby causing it to smoulder for a considerable length of time after the actual blaze has been extinguished. In some cases in Philadelphia it was found that where the ducts were visible they had been masked in or concealed by draperies and other decorative fabrics, and in the event of fire it can readily be seen that the flames might be rapidly transmitted from the ducts to the draperies and vice versa. From the above mentioned data it is clear that extreme caution and proper tests should be made by local authorities to eliminate this hazardous condition.

Regulating Places of Public Entertainment

It is our opinion, from the actual conditions found, that all public safety officials, especially Chiefs of Fire Departments, Fire Marshals, etc., should be vested with the power to make rules and regulations stringent enough to absolutely control these places of public entertainment to such an extent that it would be impossible for them to open until proper inspection and tests were made of all decorative materials, etc., to be used. It is also essential that regular periodic inspections be made of these places to insure the elimination of the possibility of the installations of inflammable materials.

(From a paper read before the annual conference of the International Association of Fire Chiefs at Toronto, Ont.).

Simmler Reinstated

Deputy Chief William Simmler, Philadelphia, Pa., has been ordered reinstated with full pay dating back to the time of his suspension on July 15, 1936, by unanimous vote of the Civil Service Commission.

The action against him was brought about by disgruntled members of the Firemen's Union, and the Safety Director instituted action for the removal.

Mayor Wilson since then has ordered the demotion of Deputy Chief Simmler to the rank of hoseman. Instead of appealing this action of notice of demotion to the Fire Trial Board or the Civil Service Commission, the matter will be taken to court by Deputy Chief Simmler.

THE ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

DELAYED ALARMS CAUSED BY USE OF TELEPHONE

WHILE the telephone has been a boon in many fields, it has brought with it considerable complications for the Fire Department.

Where the telephone is used to transmit an alarm, aside from the possible delay in getting the call through, there is the confusion that is caused when an excited person attempts to describe the location of the fire.

Many humorous, but none-the-less near tragic, conditions have resulted. Calls are received with the laconic report that there is a fire, and then the phone is disconnected. A man may, in the excitement of the moment, give the address of his office, instead of his home. If the caller speaks with a foreign accent, the difficulties are greatly magnified.

The problem in full that is treated in this issue appears in the box on this page. It is a continuation of the discussion that was published in the previous issue. In the box on the following page is the question that will be presented in the next issue. Should you have some comments that you would like to add to the next discussion, you are invited to write to the "Round Table Editor," FIRE ENGINEERING, 24 West 40th Street, New York, N. Y.

Discussion of the Question

John F. Healy, Chief, Denver, Col.: It is my opinion that wherever and whenever the human element and/or a mechanical device are concerned, there is an ever present possibility for an error or default. This possibility, of course, may be rather remote in some instances, but, nevertheless, it can and does evidence itself from time to time.

Applying this opinion to the question, it is true that inaccurate information is occasionally received as well as transmitted via the telephone. In such instances, the human element is responsible for the difficulty encountered in the majority of cases, as the receiving or transmission of an alarm of fire is an emergency action and is very frequently done under strain of excitement and nervousness. The telephone instrument and its complicated and intricate systems are purely mechanical and have been perfected to an outstanding degree of efficiency and reliability. Proper maintenance, upkeep and supervision is the answer to the mechanical side of the picture and such practice will reduce to a minimum what interference and inaccuracies may result from controllable sources.

The human element problem can likewise be minimized and the one and only answer thereto is education. This education program, however, must be continuous for obvious reasons and it must be directed to two groups. First: those concerned in the maintenance, receiving and dispatching, etc., of telephonic communication shall be so educated and trained as to render them fit to produce efficient and accurate service. Second, this group concerns the public in general. This latter group is responsible for the greater number of errors which have been in evidence and is, therefore, where an intensive and unceasing educational campaign should be directed.

Towards this end, such information can be made known at many public gatherings; civic club luncheons; women's clubs; school organizations; school children, lodges and fraternal organizations, etc. The radio, the press and printed mediums likewise serve the objective well. In brief, we in Denver publicize the proper sending of an alarm of fire in all our personal contacts with the public, such as at fire prevention addresses, during our inspection tours, etc., and while we have not been free from error in the question concerned, nor will we ever be entirely free from the same in the future, we do feel, nevertheless, that our constant work with the public has and will continue to contribute much towards the minimizing of unnecessary and costly errors in telephonic transmission of fire alarms.

The equipment, efficiency and service of both the Fire Department and the local Telephone Company are A-1, and being maintained as such, they contribute very generously towards the reduction of inaccuracies.

Wm. R. Castimore, Commissioner, Buffalo, N. Y.: We have had delayed fire alarms due to the use of the telephone. One particular case I recall was a telephone call from a woman, evidently of foreign birth and hard to understand, who said she had a fire at 120 Grey Street. Before the fire alarm operator could question her as to what cross or intersecting street it was near, she hung up the receiver.

Now in the city of Buffalo we have a Grey Street and a Grace Street. Our operator understood her to say Grace Street and dispatched apparatus to that location. Upon arrival of the apparatus they found no fire and immediately got in touch with Headquarters who directed them back to quarters. This took approximately four or five minutes. Within a minute later we received another call from this same woman, again asking for apparatus at 120 Grey Street, at which time the operator was able to get from her the name of the nearest cross or intersection street which in that particular case happened to be Sycamore Street. Since Sycamore Street does not cross Grace Street, but does cross Grey Street, they redispatched companies to the second location, which was actually the scene of the fire. These two locations are approximately five miles apart, and there was a loss of time there of anywhere from six to ten minutes.

The only safe method of transmitting alarms, in our opinion, is the use of the fire alarm box, which, if used, avoids any possibility of misunderstanding and the wrong direction to apparatus.

I might say that our operators, upon receiving a telephone call of fire, try to question the party calling to ascertain near what cross or intersection street the fire is located, which in a great may cases, solves our difficulty in streets which have similar sounding names, particularly if given to us by people who are excited and in some instances cannot speak English very plainly.

W. Q. Dowling, Chief, Jacksonville, Fla.: We have a lot of trouble with alarms given over the telephone, especially from the cheaper class of

HERE IS THE PROBLEM

Have you had any delayed fire alarms due to the use of the telephone, where information given was inaccurate, insufficient or inaudible?

If so, what were the results?

What method would you suggest to insure prompt, accurate transmission of fire alarms by the public?

houses. We also have some trouble from the better sections of the city as well. People become excited when they observe a fire in their homes and do not stop to give the right address and sometimes do not give an address at all.

We try through the press and in lectures in schools and before civic clubs to get the public to use the nearest fire alarm box for the transmission of fires in their homes or places of business, but somehow it seems like an uphill job to impress this vital lesson on the public.

The ratio of telephone calls here is about two-thirds more than fire alarm box calls on an average and that is entirely too high. There is no surer and more accurate method of transmitting alarms than over fire alarm boxes and until we can educate the public to understand this, we must expect more or less trouble by use of the telephone.

Thomas F. Cavanaugh, Chief, Waterbury, Conn.: During the year 1936 we received 220 bell alarms, as compared with 681 telephone calls. All telephone calls were handled without the least bit of confusion to the members of the Fire Department; this is indeed a very remarkable record; when one takes into consideration the handling of 681 calls.

However, I feel that after all, the fire alarm box is the most valuable means of notifying the Fire Department in the event of fire. In the first place, its location is at a particular street corner and the members of the Fire Department are familiar with that location and can go directly to the scene of the fire.

Whereas in the case of the telephone alarm there is always the possibility of the operator at headquarters getting the wrong street address, and as a matter of fact, getting the wrong street over the phone. Although, as stated before, we haven't encountered this trouble.

J. G. Hogan, Chief, Bayonne, N. J.: We have had trouble with telephone calls giving an alarm of fire and such calls have been the cause of delayed response, causing the fires to gain considerable headway. Panicky people have given wrong or no directions over the phone, resulting in a check back from Fire Headquarters to telephone exchange to receive the right information.

To overcome this, fire boxes, if possible, should be placed at one block intervals.

We have given instructions on how to properly send in a fire alarm to the pupils of upper grades of elementary, junior and senior high, public and parochial schools, and civic organizations. We have made an endeavor to educate people to familiarize themselves with fire alarm boxes nearest to their homes.

Frank Charlesworth, Chief, Providence, R. I.: We have had delays resulting from information regarding fires reported by telephone in place of sending in alarms from boxes. Such calls may be due to improper pronunciation, when street names are so closely alike that the sound transmitted various very little—as in Amy and Almy. Again, due to excitement, persons will given an inaccurate location of the fire or insufficient information. Fortunately we have met with no serious difficulty regarding inaccurate information, nor have we experienced any great losses.

We find it an advantage to suggest that citizens send in alarms of fire from street boxes to secure prompt attention. It may be that a fire may be reported more expeditiously however, by telephone and my suggestion would be to have the man whose duty it is to answer calls on the phone, in order to avoid confusion, ask necessary questions calmly and in such a manner as to avoid unduly exciting the person on the other end of the line, who is endeavoring to give information. This, in my opinion, can be done by the recipient of such a message responding quietly and courteously, when talking with one who is obviously confused and excited.

HERE IS THE PROBLEM FOR THE NEXT ISSUE

What means would you suggest for keeping volunteer firemen interested in the activities of the department?

Do you believe that developing friendly rivalry between companies might help?

Would firm discipline be beneficial?

T. A. Qualey, Chief, Medford, Mass.: We have had trouble with telephone alarms to the extent that they have been given in broken English by some excited person. Our usual procedure after receiving calls would be to have the operator repeat it to the caller for confirmation. Most of the mistakes are where the call is for some street that sounds similar over the telephone to some other street.

The results in most cases are that the apparatus is sent in the opposite direction, causing a delay in reaching the fire.

Most cases, where this practice is used, is where the city or town does not have sufficient number of fire alarm boxes. In many cases the one wanting the Fire Department is so far away from a fire alarm box that they do not even know where to look for one, so they must use the phone. My recommendations would be increasing the number of fire alarm boxes and give it publicity. Instruct everyone in the city to acquaint themselves with the nearest fire alarm box to their home or business. To further this campaign I would appeal to the School Department to instruct the children in this matter and ask them to take home a notice to post giving the location and number of the box nearest their home. The card should be printed to read as follows:

"The nearest fire alarm box to this location is....."

Frank A. Northcutt, Chief, Covington, Ky.: I find that at times we have received still alarms over the telephone that were inaccurate, insufficient as far as directions were concerned and inaudible. We find this confusion greatest among women and children, when a telephone is used for transmitting the alarm.

It is further my opinion that the fire box is the surest and most accurate way of transmitting an alarm of fire.

Wm. J. Lutz, Chief, Wilmington, Del.: While there has been some delay, I cannot recall any serious troubles due to still alarms. The failure to send in the alarms for fire immediately when the fire starts has been our greatest source of trouble.

Delayed alarms have resulted in the increase of fire losses, not to mention the loss of life. In one instance the fire alarm box was located only 300 feet from the frame house that was on fire and the occupant ran seven blocks to another fire alarm box.

To overcome this, education of the public is very necessary. Educate them to send in the alarms without delay. "Save a life" should be the motto of all. It is the motto in this city.

Another excellent method is to have a teletype system installed to send the message to the fire stations from the central station operator.

A. M. Marah, Chief, Columbia, S.C.: I am glad to say that we had no delayed fire alarms last year due to the use of telephone. Approximately 70 per cent of our alarms are received over the telephone and about 30 per cent over fire alarm system. We have urged our citizens to use the fire alarm system more than they do. The system we use in receiving calls over the phone is as follows: When a party sends in a call over the phone our operator repeats the location and also asks the party his telephone number. All phones in our city use the dialing system. To check our operator, we have one of our captains listen in on extension phone and double check the message so as to avoid a mistake. By using this double check system with an operator and a Captain listening to the message, we have eliminated delayed fire alarms. By getting the phone number of party sending in call, we can find out the party sending the call in case it is false.

I would urge a fire alarm system using fire alarm boxes to insure prompt, accurate transmission of fire alarms by the public.

Robert C. Jones, Chief, Chattanooga, Tenn.: The records of this department will show that we have experienced very few delayed alarms by the use of the telephone.

The fires responded to were of such a minor nature that no bad results were noticeable.

It would be of material and beneficial assistance to all Fire Departments if the public was instructed in the manner of transmission of fires, how to use the telephone, and how to give the location, if not by house-number, then to the nearest street intersection. This would speed up the transmission of all fire alarms. The telephone company in each city could be of a great amount of assistance in this respect by publishing in the index of their telephone directories the numbers and method in

which fire alarm headquarters could be easily contacted.

F. W. Donnelly, Acting Chief, Lincoln, Neb.: Upon numerous occasions, telephone connections have burned off, due to a fire in basement. Occupants have had to arouse neighbors to send an alarm to the Fire Department, resulting in delay. Upon one occasion the house was a complete loss.

In another instance, an alarm was received at fire alarm headquarters, for a fire at an institution housing small children. Due to power interruption, the alarm operator could not transmit the alarm to the fire companies covering that district and when the Assistant Chief arrived at the fire from headquarters, a distance of five and one half miles, there were no fire companies on the scene. He had to call companies after he arrived. No lives were lost, fortunately, but, there was considerable damage to the property.

I would suggest an up to date fire alarm system that would serve the entire city, in addition to the telephone system, with dual truck lines from each telephone switch room in the city fire alarm headquarters.

S. J. Flores, Chief, Shreveport, La.: We have the dial telephone system here, and have had one delayed alarm about 5 o'clock one morning. The milk man in an alley saw a fire and didn't know the number of the Fire Department. When he dialed the operator he was told to look in his directory. He had no directory and it was about ten minutes lost while he argued with the operator, until he ran to a fire alarm box and finally sent the alarm.

I took it up with the phone manager and he has instructed the operators when any one dials and asks for the Fire Department, to give it to them and get the number of the transmitting phone. This seems to work very well.

John Gibson, Chief, Mt. Vernon, N. Y.: Have only recently had several delayed alarms due to the use of the telephone. Information given was inaccurate, insufficient and at times inaudible.

The results have been that considerable time was lost. At times people will telephone they have a fire, and then hang up. Considerable time is lost tracing that call. If a dial phone is used it cannot be traced. Also wrong locations are frequently given. Only recently we received a phone call of a fire at 149 South Fourth Avenue. Upon arrival we found the fire was at 149 Forster Avenue, two miles from location given, with a result of loss of time of nine minutes.

The only means that should be used by the public to insure prompt and accurate transmission of fire alarms is to use the fire alarm street boxes.

M. T. Keena, Chief, Hartford, Conn.: Delay has been caused through misunderstanding of an address as given by an excited person phoning in an alarm. This causes a delay in reaching the scene with result that fire gains considerable headway. Most of our trouble via phone calls is caused by the fact that part of our people in the west section of the city, whose telephone services comes through a branch office in an adjoining town, call their operator. He in turn notifies their local fire company, and they in turn transmit the call to our central office, as they recognize the address to be in our district. In the meantime the fire is gaining headway.

I strongly recommend that the public locate the nearest fire box and *use* it.

G. L. Frock, Chief, Springfield, Ohio: We have had some alarms in this city that were delayed by misunderstanding the telephone call, some that were given wrong and a few false alarms.

Most of our trouble seems to come from excited persons or people who are not well acquainted with the neighborhood from which they are calling. But most of these are quickly taken care of by means of the two way radio in the Chief's car. He can get in touch with the Fire Department through the Police Department and have the call traced.

When a person calls the Fire Department number, the telephone operator asks them if they want to report a fire. This plan makes it easy to trace a mistake, but as we'll shortly go into a dial system, we will lose this benefit, I believe.

We receive about sixty-five per cent of our alarms by telephone, due to the fact that we have 183 actual boxes out of 321 numbers.

I believe the fire alarm box is the surest way of getting fire service to any location. I also recommend the use of two-way radio on Fire Chiefs cars as well as on police cars.

C. C. Ralph, Supt. Fire Alarm Division, Portland, Ore.: In one instance a $200,000 loss was the result of a telephoned alarm. Prompt and accurate transmission of fire alarms by the public will be governed entirely by the percentage of human element that enters into the transaction.

The success of the street alarm box system is due to the elimination of about 50 per cent of this element. The installation of automatic fire alarm systems by the department in every risk of over $20,000 would eliminate another 40 per cent. Selection and training of fire alarm operators is the most important step in the elimination of mistakes by telephone. Training the public to keep cool and give accurate information has to be done by the alarm operator and it must be crowded into the short space of about 20 seconds. A cool diplomatic operator can do more to bring an excited person back to normal than anything else.

Herman E. Gutheim, Chief, Cambridge, Mass.: We have had a number of delayed alarms caused by use of telephone such as similarity of street names, people unfamiliar with dial phones, party lines where person using phone will not give way for an emergency call, etc.

I recall a few fires where losses were extremely heavy due to these causes. One apartment house fire necessitated four alarms and in this fire one wing of the building was destroyed.

In all of our lectures before social bodies, we emphasize that every person should know the nearest street box to their homes and places of business, as an alarm sent in from a street box gives the exact location and is also speedier than the telephone.

J. L. McLane, Chief, Charleston, W. Va.: Quite often we are delayed by inaccurate phone calls. Sometimes the call comes to the Police Department and then is relayed; sometimes similarity of street names causes delay, and at other times dialing the wrong number causes a delay.

As a result we go to the wrong location, and in the meantime the other companies respond on the correct information, causing unnecessary runs of companies.

The surest method is more boxes, the next best method is to educate

An Uncomfortable Day in the Life of a Battalion Chief

Seventy-two Battalion Chiefs of the New York Fire Department took part in a two-day written examination for promotion to the rank of Deputy Chief. Questions were asked on problems which resulted with the Worlds Fair, which will open in New York City in April, 1939. Another question asked was how to fight a fire along an imaginary section of the Brooklyn waterfront.

the public in the proper method of giving an alarm by telephone.

John Spencer, Deputy Chief, Staten Island, N. Y.: In the Borough of Richmond, Staten Island, New York City, there is a section known as the Richmond County Country Club. It is more of a private residence colony, with about one hundred homes of the better class. Each home sets on an acre of ground. At the intersection of roads there are sign posts giving the name of roads. Houses have no numbers. When a fire would occur, a maid or other employee would call Headquarters on the telephone, and being in an excited condition it would take our dispatcher some time to get the proper location, name of owner, etc. In fact they have been known to hang up before the information was obtained.

There are several owners with the same name but different locations in this colony, and a lot of valuable time is lost before the dispatcher could notify the nearest company to respond.

I was informed that the Dongan Hills Improvement Society were preparing a map, showing the location of each house. This was for use of members and their friends. After looking the map over, I saw where it could be improved and assisted the member in preparing a new map. The final map shows location of each house, by number and zone, owners name, and location of the nearest box.

Since this system has been installed, it has been tried several times and has worked perfectly. A detailed story of this system was published in the October, 1933, issue of FIRE ENGINEERING.

W. S. Knight, Chief, Salt Lake City, Utah: So far, this department has not suffered any delay or loss of time by reason of telephone fire alarms. However, we at all times recommend the use of alarm boxes as being more accurate.

V. C. Shepard, Chief, Macon, Ga.: In regards to telephone alarms, it has been my experience on one of two occasions, to get the wrong location by phone. Luckily the fire didn't amount to anything. I think the box alarms are the most reliable for where a box is pulled you get it much earlier and you know where the fire is located.

T. W. Retherford, Chief Operator, Louisville, Ky.: We have had no trouble with delayed telephone alarms. We have multiple sets on incoming telephone lines and two operators listen to location of fires given over telephone. This has proven very satisfactory for us, especially under present conditions.

Walter F. Israel, Chief, Detroit, Mich.: We have had a few cases where excited persons would give the wrong location over the telephone.

To my knowledge, we have never had serious results. My recommendation is to have plenty of fire alarm boxes, and that the box be used in preference to the telephone as the phone is too slow in this regard. In Detroit when an alarm is received by our Central Office over the telephone, the operator must find out where the fire is, that is, whether it is in the basement, attic, etc., what street it is on and between what streets. Then he calls the nearest engine company, ladder company and Battalion Chief, and notifies the commanding officers of companies and Battalion Chief of location of fire and tells them to respond. Of course, if the information received by the operator indicates that the fire already had gained some headway, he would immediately send out the box alarm. If on arrival at a still alarm, it is found that the fire is of any size, the box is immediately pulled to bring the full assignment of companies. We do not permit any still alarms sent out between the hours of 11 p.m. and 7 a.m. If any telephone calls are received between these hours, except for a street car or an automobile on the street, the central office must send out the nearest box.

At no time do we send out a still alarm upon receiving a telephone call for a fire in a basement. Central Office must always send out the nearest box.

E. C. Daunter, Chief, Jackson, Mich.: While we have had no trouble with telephone alarms, we advocate the use of boxes whenever possible.

We drill the children in the schools, the boy scouts, the girl scouts, etc., giving them the telephone number of the department and we tell them to give their address very slowly and plainly, also the nearest cross street. We find that a good deal of this information is taken into the homes by the children.

R. H. Weigand, Chief, Trenton, N. J.: We have received fire alarms by telephone, where the information was given incorrectly. This has caused fire companies to respond to wrong locations, thereby endangering life and property.

To insure prompt and accurate transmission of fire alarms I would suggest the public be educated to use the fire alarm box in preference to the telephone, this will insure quick and accurate response.

J. J. Gilday, Chief, Hoboken, N. J.: On several occasions, a delay has resulted from telephoned fire alarms due to inaccurate information. We have had several calls where they failed to say where they are. As a rule, we have the operator trace such calls.

Meek Succeeds Bensen

Clarence E. Meek has been appointed New York District Manager of the Ahrens-Fox Fire Engine Company, to succeed Fred Bensen, who resigned March 15.

Mr. Meek, formerly Vice-President of the Garrison Engineering Corporation, has been closely associated with fire protection work for many years and is well known in fire circles.

The New York office of Ahrens-Fox has been moved from Long Island City to 103 Lafayette Street, New York City.

A Correction

In a news item headed "Fog Extinguishes Plane Fire" on page 146 of our March issue, and in the advertisement of the Fog Nozzle Co., page 147 of the same issue, Chief Griswold and Capt. Hogan were erroneously mentioned as being with the Los Angeles Fire Department, instead of the Los Angeles County Fire Department, which is a separate organization.

This was an error in proofreading. Excuse it please.

Chief Burnett, Des Moines, Dead

Chief Will Burnett, Des Moines, Ia., seventy-seven-year-old department head, died at the Iowa Methodist Hospital on March 27, as the result of severe burns received while fighting a fire in the Sheuerman Woolen Mills warehouse on the previous day.

Chief Burnett and Capt. Fisher were on the second floor of the warehouse investigating the extent of the fire they had believed they had almost extinguished. It is thought that flames swept up a ventilator shaft and ignited the powder-like bales of loose cotton. Fire had started on the ground floor, leased to federal authorities for the storage of goods used in the woolen mill projects.

Chief Burnett was severely burned about the face, arms and back, and was removed from the building in a critical condition.

He went to Des Moines with his parents when he was eleven years old.

The Late Chief Will Burnett

He started off in the Fire Department in 1895 as Assistant Chief and was made Chief one year later.

Among those who attended the funeral, which was held at Dunn's Funeral Home, Des Moines, on March 29, were the following Chiefs: Geo. Kellogg, Sioux City, Ia.; Albert Krenz, Clinton, Ia.; Daniel H. Shire, Mason City, Ia.; H. J. Callahan, Ft. Dodge, Ia.; L. R. Morris, Ames, Ia.; Wm. A. West, Boone, Ia.; E. P. Kohout, Cedar Rapids, Ia.; M. H. Gunderson, Oelwein, Ia.; Earl Byers, Belle Plaine, Ia.; Harold Stanton, Storm Lake, Ia.; J. C. Dobson, Keokuk, Ia.; Wm. Grote, Council Bluffs, Ia.; Carl Homann, Waverly, Ia.; Ray Tiller, Waterloo, Ia.; August G. Schmidt, Rock Island, Ill.; Asst. Chief Henry Uken, Davenport, Ia.; Paul A. Sohner, Secretary, Iowa Firemen's Association, Independence, Ia., and Glenn T. Scott, American-LaFrance and Foamite Industries, Inc., Representative, Kansas City, Mo.

Interment was at the Masonic Glendale Cemetery.

South Carolina Firemen Not to Meet

The Executive Committee of the South Carolina State Firemen's Association has cancelled the convention that was to be held this year, and instead will hold an election of officers at Columbia, S. C. on June 17.

Questions and Answers

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified

Maximum Lift by Suction

To the Editor:

What is the highest that water has been actually drafted, or at what height is it possible to actually draft water?

What effect does drafting water, say 28 feet, have on the interior of the suction hose? In other words, is it possible to damage the interior of the suction hose by a heavy draft, or is the suction always filled with either water or air in sufficient quantities to avoid any damage to the suction hose? What is considered a maximum vacuum?

R. H. D.

Answer: A fire engine is said to be in good condition when it will draft water a vertical height of 25 feet. The writer has seen new pumping engines, however, lift water as high as 28 feet vertically.

It is generally assumed that the maximum height to which a pump can lift water by suction at sea level is 30 feet, although this is probably its extreme limit.

Suction hose is so built that no damage whatsoever should be done to it when drafting water even to the elevation noted above. The purpose of the suction hose is to provide a means for a pumper to lift water up to the maximum height.

When Hose Is Laid Down a Grade

To the Editor:

What is the correct method of determining pressure on a nozzle that is at a lower level than the pumper? A pumper is connected to a hydrant located 500 feet from the fire, there is a 15 per cent descending grade in the street from the hydrant to the fire. The engine pressure is 120 pounds, pumping through a single line of 2½-inch hose, 13 lengths long (50-foot lengths) equipped with a 1¼-inch nozzle, being operated in the sub-basement of the fire building at a point 32 feet below the street level. What is the nozzle pressure?

R. A. S.

Answer: The method for solving for nozzle pressure in the problem you give is as follows:

First find the vertical distance which the nozzle will be below the engine.

The grade is 15 per cent, which means that for each hundred feet horizontally, the surface of the ground drops 15 feet. The question states that the fire building is 500 feet from the engine (which probably means that the measurement would be made down the incline to the fire). The difference by measuring horizontally would not be serious and the results would not be materially changed. Therefore it will be assumed that the distance measured horizontally is 500 feet and that the drop in elevation would then be 5 x 15 or 75 feet.

To this must be added the drop from the surface of the street to a point where the nozzle is operating, or 32 feet. Thus the total drop from the engine to the nozzle is 107 feet.

The static pressure represented by this drop is 107 x .434 or 46.4 pounds approximately.

This pressure will help the engine pressure, for it operates in the same direction as the engine pressure. Thus we would have not only 120 pounds to force the water through the line and give nozzle pressure but in addition, 46.4 pounds. Thus we might term the engine pressure as 120 plus 46.4 or 166.4 pounds.

$N.P. = E.P. \div (1.1 + K.L.)$

Where K is a factor depending upon nozzle and hose diameters and is, for 2½-inch hose and 1¼-inch nozzle .248: L, the number of 50 foot lengths of hose in the line, is 13.

The $N.P. = 166.4 \div (1.1 + .248 \times 13)$

$= 166.4 \div 4.324$

$= 38.5$ approximately.

Capacities at Different Pressures

To the Editor:

Will you kindly answer the following question.

How may I determine the discharge of a pump at different pressures. While I know that a pumper should discharge full capacity at 120 pounds; 50 per cent of rated capacity at 200 pounds, etc., I would like to know what limits the discharge of pumpers at different pressures.

G. F. K.

Answer: Without a motor performance curve, there would be no way of accurately determining the maximum pump capacity at different pressures, in a fire engine.

The Underwriters' requirements, which you cite, are a very good guide to the minimum requirements, at different pressures, of certain size pumping engines.

In Civil Service Examinations, the method employed to determine the capacity of a pump at other than 120 pounds pressure is to multiply the rated capacity by the rated pressure and divide by the pressure at which you want to find the capacity. This will give you the capacity at any other pressure you wish. However, the figures so secured will be quite inaccurate, as it is assumed that the motor is capable of giving the same power at all speeds which, you will understand, is quite contrary to performance.

At very low pump pressures, there is another factor which determines the maximum capacity and that is the safe speed at which the motor can be run. In calculating for the discharge at very low pressures, you will find that the figures you get will be excessive. For this reason the rule given above does not apply over a very large range of pressures.

Capacity of Hydrants

To the Editor:

Our city is considering purchasing a 600-gallon pumper. Our mains in business districts are 6 and 8-inch, and all are looped, eliminating dead ends. The pressure on our mains average between 50 and 60 pounds. Hydrants are all 4-inch hydrants, and none have over 20 feet of 4-inch pipe connected to the 6 and 8-inch mains. The question has arisen as to whether these 4-inch hydrants would supply a 600-gallon pumper by connecting the two 2½-inch openings from hydrant into suction and give two satisfactory fire streams through 1-inch nozzle tips.

J. E. F.

Answer: The layout of your water mains, based upon the information given, seems to be satisfactory for supplying a 600 gallon per minute pumper, if attached to a 4-inch hydrant.

The only possible point in question would be the 20 feet of 4-inch pipe between the hydrant and the 6 or 8-inch main.

If this pipe line is badly incrusted, and has thus had its waterway cut down to a fraction of its original size, you might have difficulty drawing 600 gallons a minute from it.

On the other hand, if you are not bothered with badly incrusted mains in your Water Department, you can feel pretty sure that the 600-gallon pumper will get all the water it wants from any of the hydrants on your system.

Fire Discovered En Route to Fire

To the Editor:

When answering alarms in our community, two engines are sent out. Recently in answering an alarm a second fire was discovered. I stopped and put the fire out. What in your opinion is the best method to handle a situation of this kind? Leave a

man at the fire and go on to the nearest box and report it, or do as I did?

J. F.

Answer: When responding to a fire, if a second fire is discovered, the usual procedure is to drop off a man at the second fire with instructions to transmit an alarm and to do what he can toward checking the fire and getting people out of the building until the arrival of the apparatus.

On the other hand, if life is in immediate danger at the fire discovered enroute to an alarm, then the company should stop at the fire so discovered and perform rescue work, etc. At the same time headquarters should be notified at once of what has been done, so that another company can be dispatched to the original alarm.

Defective Equipment Blamed

Chief Grover L. Frock, Springfield, Ohio, held defective equipment as the cause of the accident that followed when a twenty-one-year old ladder truck sideswiped two other trucks on the way to a fire. The Chief said that a key controlling the steering tiller of the ladder truck, sheered off, causing the apparatus to weave through traffic. It crashed into a bakery and a dairy truck.

CORRESPONDENCE

Firemen Trained as Lecturers

To the Editor:

Thirty-three members of the Fire Prevention Bureau and two Public Relations men, all of the Los Angeles Fire Department, have just completed a course in public speaking at fire headquarters, under the direction of J. E. Kelly, well known instructor in all of the speech arts.

In addition to actual practice in speaking before the class, the inspectors were taught the importance of arranging the material and knowing the subject; audience psychology; voice control and placement; platform technique; and the summarizing and concluding of a talk.

The inspectors not only surprised each other but they surprised themselves with the rapid development in their work. The Fire Department is in a position for the first time in many years to fill all speaking engagements without outside help. During National Fire Prevention Week and other important educational campaigns, Fire Department speakers are on duty constantly.

RALPH J. SCOTT,
Chief, Los Angeles Fire Department.

* * *

Dictaphone for Telephone Alarms

To the Editor:

Reading the discussion on delays caused by telephone alarms has brought to mind a system used by one city. I am not certain of the name, but believe it to be Seattle.

Their method is to have a dictaphone at the switchboard. When in doubt as to the location given over the phone they turn on the machine and have the person repeat the message. Then by playing the cylinder over slowly they are able to decipher any garbled message.

Very truly yours,
OTIS SMITH.

* * *

Pumper Supplies Domestic Water

To the Editor:

Here is a side line on the recent flood.

When the water was discontinued at St. Bernard, Ohio, the only water available was that which could be obtained through gravity flow from a reservoir. It was for one hour in the morning and one hour in the evening.

The Cincinnati Chemical Company offered the service of its private water supply, which consisted of a deep well that could deliver 800 g.p.m.

The Fire Department furnished an Ahrens-Fox 800-gallon pumper and the chemical company had two of their mechanics make the necessary fittings to connect the pumper to the well.

Two lines of hose were laid to the nearest hydrant and the pumper was then ready for work. This unit pumped water for nine days, and although the pumper had been in service for twenty-one years, it pumped water into the main at a pressure of 150 pounds. It stopped only twice, just long enough to change oil.

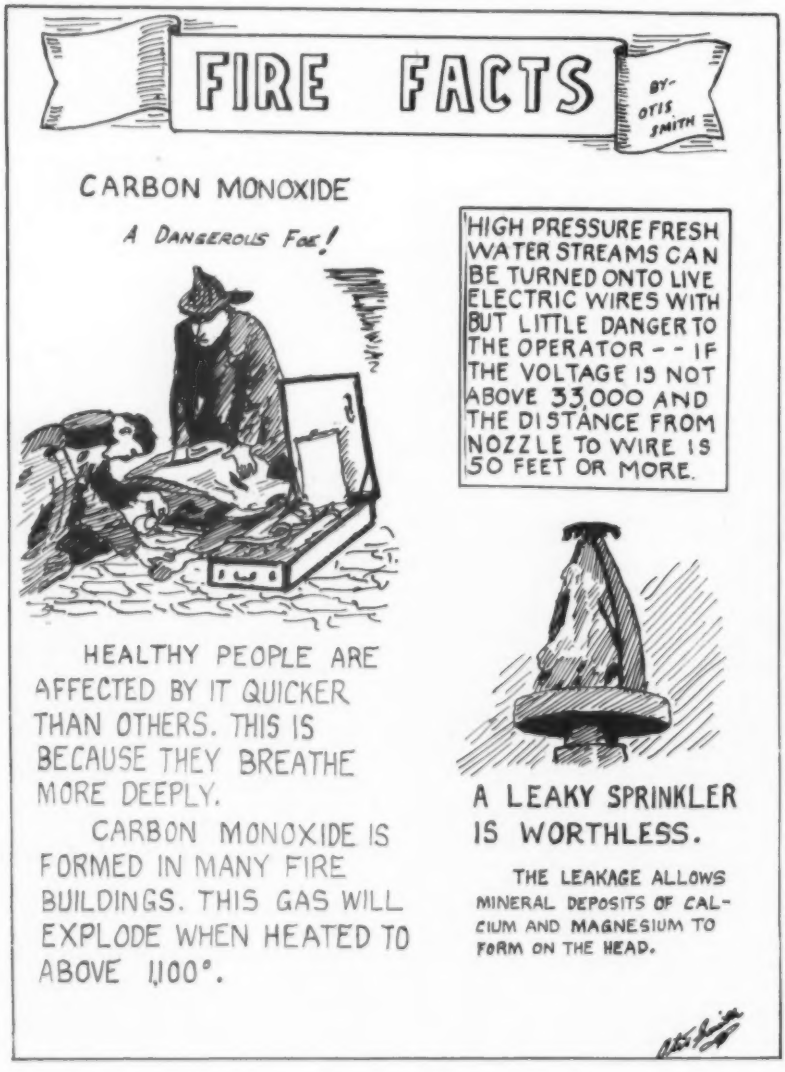
We were able to supply water to several suburbs and maintain a pressure of forty-two pounds in the mains which was increased at night. The pumper is back at its regular service, none the worse for the experience.

I understand that Hoboken, N. J., held a record of eight days and one hour of pumping. If this is true, the record is broken by our performance.

Yours truly,
ALBERT GLUECK,
Engineer, St. Bernard Fire Dept.

Water Proves Best

A tank in a Des Moines, Ia., soy bean processing plant ignited spontaneously in January. For many days, firemen tried to control the fire by use of chemicals. One evening pent-up gas blew a hole in the top of the tank, after which firemen climbed to the roof and poured water into the hole with a hose line. Three hours after the water stream was in operation, the fire was out.


FIRE FACTS
BY- OTIS SMITH
CARBON MONOXIDE
A DANGEROUS FOE!
HEALTHY PEOPLE ARE AFFECTED BY IT QUICKER THAN OTHERS. THIS IS BECAUSE THEY BREATHE MORE DEEPLY.
CARBON MONOXIDE IS FORMED IN MANY FIRE BUILDINGS. THIS GAS WILL EXPLODE WHEN HEATED TO ABOVE 1,100°.
HIGH PRESSURE FRESH WATER STREAMS CAN BE TURNED ONTO LIVE ELECTRIC WIRES WITH BUT LITTLE DANGER TO THE OPERATOR -- IF THE VOLTAGE IS NOT ABOVE 33,000 AND THE DISTANCE FROM NOZZLE TO WIRE IS 50 FEET OR MORE.
A LEAKY SPRINKLER IS WORTHLESS.
THE LEAKAGE ALLOWS MINERAL DEPOSITS OF CALCIUM AND MAGNESIUM TO FORM ON THE HEAD.

Large Apartment Fire Discussed by Westchester Chiefs

A lengthy discussion on the handling of the fire which occurred in the Chatsworth Apartment Building, Larchmont, N. Y., and the part played in handling it by the Plan, was a feature of the regular meeting of the Fire Chief's Emergency Plan, for March. The meeting was held at Fire Headquarters, Eastchester Township Fire Department, Tuckahoe, N. Y., on the evening of March 17, with an attendance of 126.

The Plan was welcomed by Chief Arthur Steuhl, of the Eastchester department. The question was raised as to the purchase of a cache of salvage covers, to be placed at some central point in the county, so that they would be available for any department on short notice in case of a large fire, such as that at the Chatsworth Apartments. The matter was laid over until a later meeting.

Judge Hoop spoke on two bills before the New York legislature and on charter revision from a firemanic standpoint. One bill provided that the proposed Fire Marshal must have had five years experience as a volunteer fireman, which the judge considered a good thing. Another bill was intended to take away the authority of village trustees, regarding the appointment of Chiefs elected by Fire Departments. There was considerable discussion pro and con as to the wisdom of curtailing this authority.

Assistant Chief Siller spoke of an invitation from Captain Cashman, of the New York Fire Patrol, to the fire officers of Westchester to attend a training school on April 4, at the 157th Street Station, in which those present will take part in the work of salvage under the captain's supervision. He thought it would be a splendid opportunity to learn the principles of salvage at first hand.

Chiefs Le Vino and Benrimo described the fighting of the fire in the upper stories of the Chatsworth Apartments, and the part taken by the various assisting departments in this large fire. At the end of their talks, there was a general discussion on the fire. It was generally accepted that the Plan had functioned 100 per cent in assistance, that the fire had been well handled and that an excellent fire stop had been made.

Sympathy was extended to Assemblyman Ralph Gamble on the death of his wife. The Chair appointed as Nominating Committee Judge Wiley Travis, Ex-President Kroh, and Ex-Chief Sullivan, Chief Steuhl and Ex-Chief Mulcahey.

The next meeting, it was decided, would be held at Montrose, N. Y., on Wednesday, April 21. Refreshments were served after the meeting.

Sprinkler Bill Vetoed

Gov. Lehman, of New York, vetoed a bill which would permit placing sprinkler systems in old law tenement houses in New York City instead of using fire retarding material. The bill was aimed to give relief to the owners of this type of building, as the sprinkler installation would have been cheaper than the reconstruction work.

Commissioner McElligott, of the New York Fire Department, wrote to Mayor LaGuardia that if the bill was approved, he could no longer assume responsibility for the occupants.

While the measure would have been desirable during the transition period of replacement, it was feared that the proposed law would be more in the line of a substitute plan and would also prolong the life of old law tenements, thereby defeating the purpose of the Multiple Dwelling Law.

Acting on the information received from Commissioner McElligott and the Mayor, Governor Lehman vetoed the bill.

N. C. Firemen Meet in August

Dates for the fiftieth annual meeting of the North Carolina Firemen's Association in Greensboro, and for the annual training school for firemen in Durham were announced at Greensboro, following a meeting of the Executive Committee of the Firemen's Association, according to Chief W. H. Palmer, Charlotte. The annual convention of firemen will be held in Greensboro August 9-12, and the training school in Durham April 27-29.

Three thousand firemen are expected to attend the golden jubilee celebration in Greensboro in August.

The Executive Committee members, meeting with Frank D. Shaw, Chief of Greensboro's Fire Department, were: W. E. Holland, Raleigh, Chief and President of the association, R. A. Joyner, Farmville, Statistician; John Miller, Concord, Secretary; A. B. Horney, High Point, Treasurer; W. H. Palmer, Charlotte, and Donald Shuford, Hickory.

Meeting with the committee was Sherwood Brockwell, Raleigh, State Fire Marshal, who will conduct the training school in Durham.

D. G. SPENCER.

Southeastern Chiefs Meet in May

Plans have been completed for the tenth annual convention of the Southeastern Association of Fire Chiefs which is to meet in Albany, Ga., May 10 and 11. Headquarters will be at the Hotel Gordon. R. S. Baughan, Norfolk, Va., is Secretary-Treasurer.

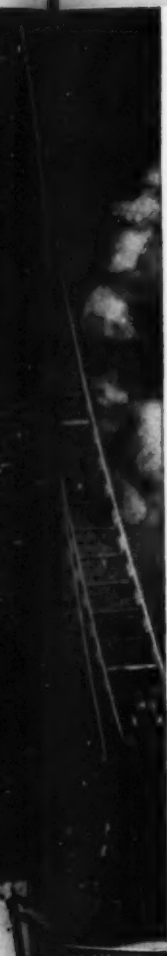
Southeastern Michigan Chiefs Meet in Dearborn

A meeting of the Southeastern Michigan Association of Fire Chiefs was held in Dearborn under the sponsorship of Chief Roy Mottesheard. Each of the guests was presented with a gold key by Mayor Carey. A committee consisting of Paxton Mendelssohn, Chief Jaeger and Chief Baker was appointed to plan for a meeting to be held in Detroit. In the photograph, taken in front of the Rotunda Building, of the Ford Motor Car Company, are, left to right, front row: Chiefs R. E. Mottesheard, Dearborn; Charles Andrews, Ann Arbor; C. E. Willert, Mt. Clemens; E. C. Rumsey, Detroit, president of the association; Mayor John L. Carey, Dearborn; Chief Hugo R. Delfs, Lansing; Fire Commissioners E. C. Lindman, Frank Schonhoffer, N. F. Edwards, Dearborn; Chiefs Frank Kuhn, Pontiac; F. Baker, Highland Park and August Zado, East Detroit. Second row, Chiefs G. Anselm, Wyandotte; Chief Chauvin, Grosse Point City; a guest; Chiefs George Dansbury, Grosse Point Farms; Rector, Grosse Point Park; Walter Israel, Detroit; A. M. Jaeger, Ecorse; F. W. Bender, Saginaw, Griffin, Hamtramck; M. Reaum, Secretary, Detroit Fire Commission; Paxton Mendelssohn, Detroit; M. M. Seymor, Lansing, and Chief George Gaisson, Wyandotte.

LIGHTER

Up ladders more quickly; water on the fire many seconds before it could be there with heavy hose. Firemen couldn't believe such a hose possible without loss of strength. ***BUT TESTS PROVE IT!***

IRE HOSE!



A fireman burdened with extra weight is like a racing car with side curtains or a halfback carrying an umbrella

Alarm! A race begins!

A grim race—men and equipment against a cruel opponent that knows no rules, no sportsmanship.

Is a pound of superfluous weight less serious to a fire-fighter than to a jockey?

Up a ladder go sixty pounds of hose. Might it be only fifty pounds? Hose and water rushing to neutralize the suffocating, consuming breath of an enemy. How many seconds will it take?

"GIVE us lighter, more flexible hose," firemen have said for years. But they meant hose which would be as strong, would last as long as any in use.

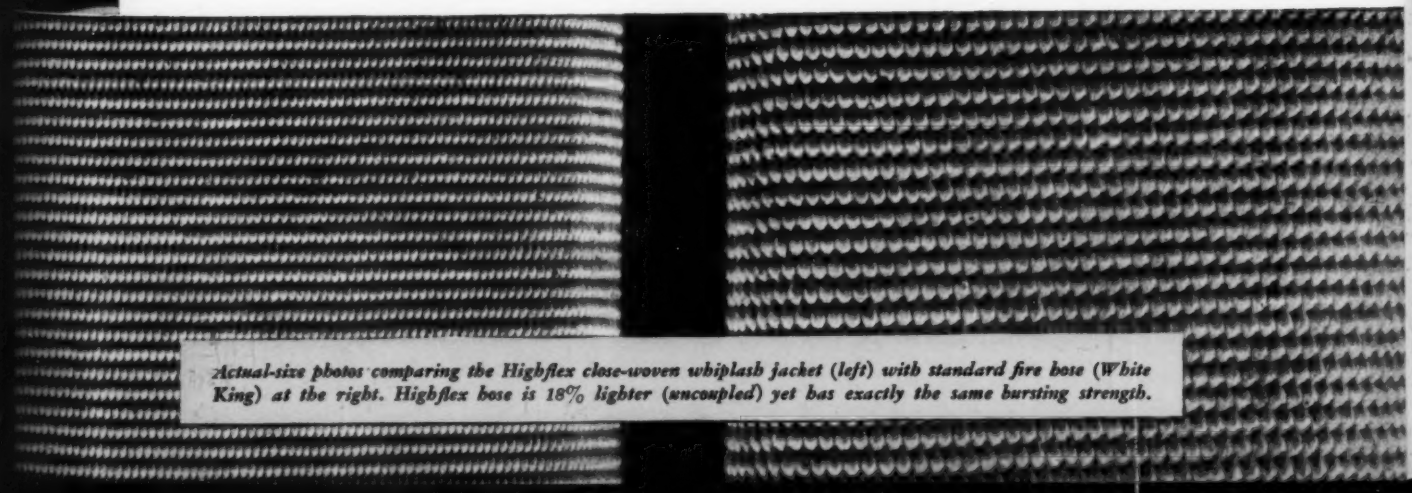
Goodrich has announced Highflex hose, a thin-wall hose with jackets woven from small, light cords, whiplash type. Jackets are thinner; size of cords is much smaller than in standard fire hose. Yet this hose is guaranteed equal in bursting strength to any hose on the market.

Highflex is 18 per cent lighter than standard fire hose, has 25 to 35 per cent more filler strands. Filler cords are counter-twisted. The hose is close woven*; filler strands are completely covered, protected from abrasive wear. Patented Goodrich *end protection* at couplings; cords imbedded *in the rubber tube* protect it from kinks and from pressure by expanding ring. Tube has increased resistance to folding and cracking.

Order a sample length from your distributor. (Write us if you don't know his name.) Test it; compare with standard hose; keep it at hand to talk over with your city officials. The B. F. Goodrich Co., Akron, Ohio.

**No basket weave, twill weave or other "open" weaves are used in any grades of Goodrich hose.*

The new Highflex fire hose—by **Goodrich**



Actual-size photos comparing the Highflex close-woven whiplash jacket (left) with standard fire hose (White King) at the right. Highflex hose is 18% lighter (uncoupled) yet has exactly the same bursting strength.

5-ALARMS SENT FOR BLAZE IN NITRATE-LADEN SHIP AT BOSTON

Ship Cut from Moorings to Prevent Destruction of Pier — Two Fireboat Officers Injured by Blast That Seared Boat

By Harry Belknap

MASTERFUL handling of a dangerous situation by Chief Samuel J. Pope, of the Boston Fire Department, resulted in saving the Mystic Docks from destruction on March 10, when fire and explosions in the forward holds of the Danish steamship "Laila" ignited the shed on Pier 45 and threatened the entire section.

The vessel, a ship of 2,900 tons, was unloading nitrates and general cargo, when the blaze broke out from an undetermined cause in a bag of nitrates and spread rapidly, in spite of efforts of the crew and longshoremen to smoother it with bagging and control it with a hose stream from the ship's pump.

An alarm was sounded at 10:17 a.m., followed by another at 10:17. A second alarm was ordered at 10:27 and a fourth alarm at 10:36, skipping the third. An alarm was sounded at 10:50 and Chief Pope ordered a fifth alarm sent at 10:57.

Lives of firemen were endangered by repeated explosions which sent bursts of flames high in the air. The fireboat "Angus J. McDonald," (Engine No. 31) was caught in a blast of fire and had her pilot house ignited. The Captain and radio operator were burned.

Ship's Mooring Lines Cut

Quick action by Chief Pope in having the ship's mooring lines cut and the vessel towed a distance of three hundred feet to an open dock gave the firemen a chance to save the freight shed, which had already taken fire. Massed streams from portable guns and deck pipes of the fireboats were then concentrated on the holds and forward superstructure of the ship, which was blazing fiercely. Seven motor pumping engines drafted salt water from the Little Mystic River, while other engines took water from yard hydrants. Two engines pumped from city mains into reverse yard hydrants.

The department laid 30,000 feet of 2½ and 3-inch hose and operated a total of 35 lines, feeding deck guns and ten hand lines. Seven portable Eastman guns were used and five Morse guns on the fireboats, three of which were at the fire.

Official Report by a District Chief

The following is from the official report of District Chief Michael J. Aylward, who was the first officer to reach the scene of the fire:

"I responded from quarters of Engine Company No. 27 in an automobile and reached the scene in three minutes. Upon arrival found that the fire had control of No. 3 Hold in the steamship. Had lines laid from wharf hydrants to vessel by Engine Companies Nos. 27, 36 and 50 and operated into hold. Ordered second alarm. Had Fireboat (Engine No. 31) operate gun. An explosion in the hold and a rush of flames drove us off the vessel. Ordered a fourth alarm. The flames issuing from the hold ignited the shed of Pier 45. Lines of hose were used to protect the shed. The fireboat (Engine No. 31) was ignited and had to leave its position alongside the vessel. Lines were laid to portable guns on roof of the shed and operated into the holds of the ship. Chief Pope assumed command upon his arrival and had the vessel moved to an open pier 300 feet away. Explosions spread the fire to the first and second holds and also to the crew's quarters and bridge."

A steel bulkhead aided the firemen in keeping the flames from sweeping through the amidship and aft sections of the ship. The all-out signal was sounded at 3:11 p.m., but a fireboat and a detail of ten firemen remained at the scene all night.

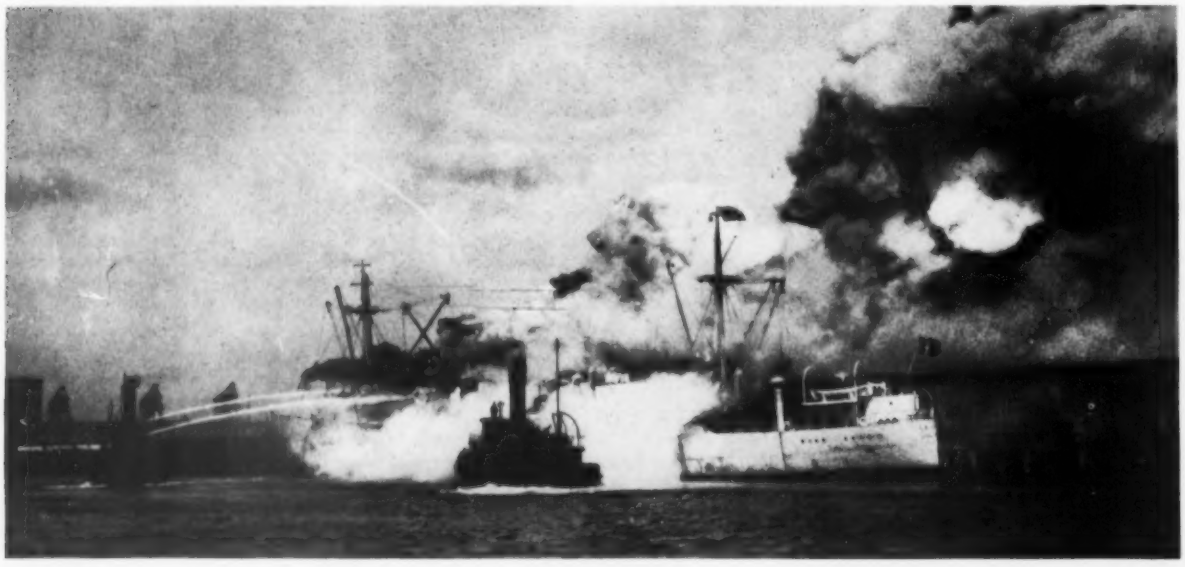
The total damage was estimated at $250,000.

Officers and Apparatus in Service at Fires

The blaze was the most spectacular daytime fire in Boston for a long time. Chief Pope was assisted at the fire by Deputy Chief John J. Kenney, Deputy Chief Thomas H. Downey, Acting Deputy Chief Napeen Boutelier, and District Chiefs Mahoney, McCorkle, Sanborn, Tague, and Aylward.

The following units were at the scene: Engine Companies Nos. 27, 36, 50, 32, 8, 6, 10, 35, 47, 31, 15, 38, 43, 13, 34, 26, 39, 9, 21, 42, 12, 16, 37, 19, 51, 53, 3 and 44; Ladder Companies Nos. 18, 20, 22, 9, 1 and 3; Water Tower No. 1, and Rescue Company No. 3.

Captain William J. Marshall and Radio Operator Thomas Keenan were sent to the hospital for severe burns. The following day Deputy Chiefs Downey and Kenney were also given hospital treatment.



Fighting the Fire on the Danish Ship "Laila" Tied Up at a Pier in Boston

Chief C. T. Gibson Dead

C. T. Gibson, for the past eleven years, Assistant Chief of the Norwich, N. Y., Fire Department, died suddenly on March 25, as the result of a heart condition.

BLAST FROM GAS LINE WRECKS SCHOOL AND KILLS 488 IN NEW LONDON, TEX.

Firemen and Equipment Rushed from Communities in 200-Mile Radius and Prompt Assistance Was Given by Oil Companies

AN illegal tap made to a gas line from an oil field in New London, Tex., was responsible for an explosion that caused the death of nearly five hundred school children and teachers of the Consolidated School, and completely wrecked the building. The blast happened at 3:05 p.m. on March 18. The high school had 730 students enrolled and a faculty of thirty-two teachers.

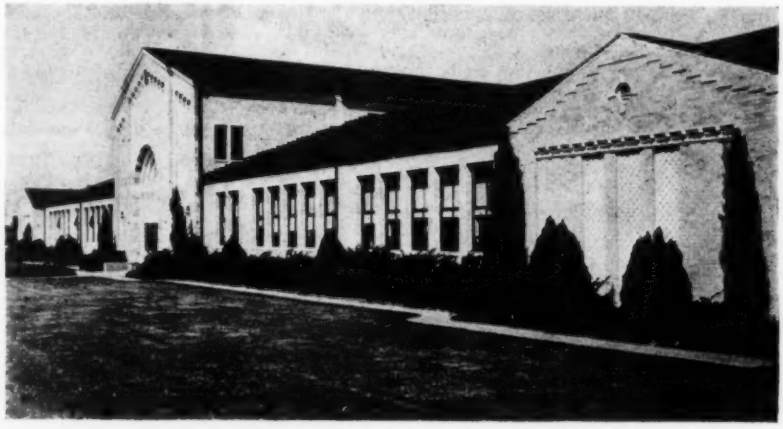
There were twenty class rooms in a building five hundred feet long by 125 feet deep. The center portion was three stories high, but the major portion was two stories high. Little wood was used in its construction, and since the school was a little over a year old, it was modern in every respect. It had concrete floors, tile walls, and white brick on the outside. The building was located in the heart of the East Texas oil field.

When the explosion came, it seemed as though the building blew up and fell back in the same place, pinning the bodies beneath. Cars within a radius of five hundred feet were completely wrecked by the blast. The school had a fleet of buses for the transportation of children, and some were outside being loaded. All those in the buses were killed outright.

Every type of car was used for the transportation of the injured and dead—delivery trucks, sedans and ambulances. They were moved to all towns in the district where aid could be secured.

Martial law was declared at once, and members of the National Guard prevented people from approaching the wreck.

Fire apparatus responded from Henderson, Kilgare, Longview, Overton and Beaumont. A light truck was sent from Beaumont and was just the thing to aid in searching for bodies in the ruins, and for lighting up the work during the evening hours. Extra firemen responded from Shreveport, Gladwater, and as far as Ardmore, Okla., a municipality two hundred miles away. Even Beaumont had to travel a distance of two hundred miles.



The School as It Appeared Before the Blast

In addition there were about one hundred power trucks from the oil fields, equipped with powerful winches, trucks with dump bodies, and electric and acet-

Consolidated School of New London, Tex., Shortly After the Explosion Took Place

ylene equipment for cutting through the heavy steel girders of the demolished building. Caterpillar tractors and draglines were used to pick up and load the debris in dump bodies.

Several small fires started as the result of the explosion, but these were not serious and were quickly extinguished.

The utility company responded at once. It set up a number of poles on which were placed large spotlights for illuminating the grounds. Portable lights were also used.

About 1,000 men worked to recover the bodies. No time was lost in the rescue work. Many of those in the rescue party had children who were in the school when the blast took place. The school had its own gas wells but three hundred feet away.

While it was most unfortunate that the accident did occur, the proximity to the oil fields was of immeasurable help. The major oil companies did everything possible. They rushed men from the oil fields to assist in the rescue work. They sent powerful trucks and supplies, gasoline, water and other material.

In addition to the rescue workers, there were representatives from the American Red Cross, the Salvation Army, Boy Scouts and other organizations. They supplied the workers with sandwiches, coffee, water, cigarettes and first aid supplies.

A hospital was set up on the school grounds for emergency treatment.

The catastrophe is being investigated by the State Department of Education, and an investigating committee from the State Senate.

HENRY JACKSON.

First Flood, Then Fire

Ill luck seemed to stalk the wholesale grocery firm of Arthur Baehr Company, Cincinnati, Ohio. They had been drying out and rehabilitating the structure after the flood waters had receded. One hour after employees had left the place at 4 a.m., fire was discovered in the four-story brick building.

The first alarm was sounded at 5:09 a.m., second at 5:15 and the third at 5:17 a.m. Sixteen engine companies were moved to the scene and the down town area was deprived of fire companies until the reserves were ordered in. A stiff wind and zero weather handicapped the firemen.

Former Asst. Chief Clem Beckman, who retired on January 1, assisted Chief Houston in directing the firemen. This was the fourth large fire that the former Chief responded to and directed since his retirement.

Chief Barney Houston believes that the fire was started by over-heated salamanders used in drying out the building.

This fire brings the city's fire loss, from the time of the Black Sunday fire at the Crosley and Standard Oil plants at the height of the flood, up to $1,500,000.

LARRY F. DONOVAN.

Rockland, Me., Block Threatened

The entire center of the business section of Rockland, Me., was threatened by an early Sunday morning fire on March 2, when fire broke out in a business block. Upon the arrival of Chief Van Russell, a double alarm was sounded and in a matter of moments an immense column of black smoke was rising from all sections of the block at once.

Fire, spreading through the partitions, had gained considerable headway, and just as the general alarm was turned in, a terrific hot air explosion tore out a large section of the western wall with such force that the windows in the adjoining block were shattered.

The ground floor of the Edwards' half of the block was occupied by a pool room and hat cleaning establishment.

The rooms above were being renovated for a new beauty shop.

The cause of the fire has not been determined. Chief Russell is of the opinion that it originated in the stairway connecting the two sections of the building.

Jumping from the pumper to hook up a line of hose, Captain Fred Cheyne, a veteran of many fires, fell to the ground, dislocating his right arm and badly cutting his right hand. Hoseman Forrest Colson was cut in the face by flying glass, and Chief Russell slipped from an ice encased ladder.

The Rockland department has been highly complimented for making a good stop on one of the hottest fires that ever visited the business section of the city.

A. BLACKINGTON.

Fighting Fire Which Broke Out in Rockland, Me., Business District

Shake-Up in Philadelphia

Mayor Wilson of Philadelphia caused the biggest shake-up in the Fire Department in recent years, when he transferred six Battalion Chiefs, a Captain, a Lieutenant and sixty-one hosemen. In addition, a new Trial Board was formed with Deputy Chief Charles A. Gill as head.

Chief Ross B. Davis said that he was not consulted about these changes, and some believe the move as a slap at the Chief, who is very well known in Fire Department circles.

Fire House for Danbury

The recent application filed by the city of Danbury, Conn., for a Federal grant of $12,000 for a modern brick fire station in the south end of the city, has been approved by PWA authorities. The new fire station will replace the old wooden volunteer fire house on Coalpit Hill, belonging to the Wooster Hose Company.

The city's share of the cost will be approximately $2,100. Plans drawn by Campbell & Lacava, Danbury architects, call for a building fifteen feet wider than the present one and twenty-five feet longer. Sleeping quarters are to be located in the rear of the apparatus floor and the second floor will be arranged for a meeting room in front, and a kitchen in the rear.

THOMAS F. MAGNER.

Ballston Spa Has Low Losses

Chief Howard L. Humes, Ballston Spa, N. Y., reports a low fire loss for the past year. His annual report shows that the loss per fire within the village limits was $63.97; loss per capita, 39 cents; cost per capita of maintaining the Fire Department, 75 cents.

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WITH FLASHING BEAM OF LIGHT

Get the best siren money can buy for that new apparatus. It will pay you greater dividends in safety and faster runs. The only way to get a FEDERAL C-5 on new apparatus is to *specify it* when ordering new apparatus. The streamline C-5 COASTER SIREN sounds a giant roar for a full 3 minutes after current is shut off—*that saves battery.* Rugged and dependable. Try one on your present apparatus for 30 days. No obligation.

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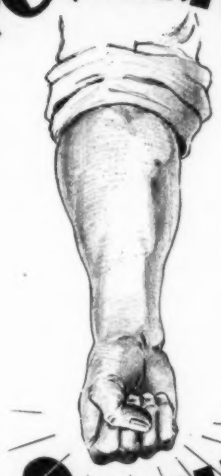

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Built Chockful of Action for its Size. Rugged in Construction to withstand abuse on busy piece of eqiupment.

1. Newest innovation a two-tone blast.
2. Large red flashing light.
3. Long rolling action after current is cut off more than two minutes—that saves your battery.
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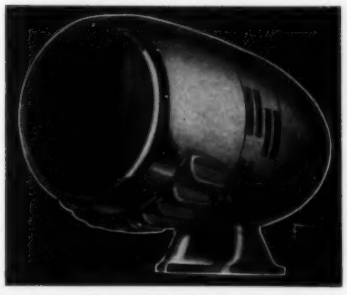
Write for Trail Offer NOW

SPECIFICATIONS

Model	"77"
Finish	Chrome
Voltage	6 or 12
Dimensions	15½" long x 8½" high
Net Weight	22¾ lbs.
Brackets	Pedestal or Roof

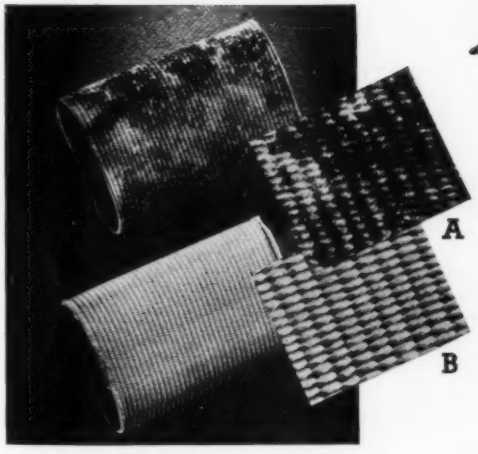
ASK FOR BULLETIN NO. 56



FEDERAL ELECTRIC COMPANY **8702 S. State St., Chicago**

PROVAR PROCESSED HOSE

Fights Mildew Better
Fights Fire Better



★ Hose that fights mildew better is a better, more dependable fire fighter. When you use Republic Provar Processed Fire Hose you can be sure that the mildew problem is solved! Mildew can't live with Provar. This process is used exclusively on all Republic Fire Hose. It's permanent—will not wash out.

A six month's exposure in conditions favorable to mildew growth showed Provar Processed Hose still in perfect condition. This means a great reduction in hose costs, longer more dependable service, and—the price is the same as ordinary hose!

A Not processed for mildew protection.
B PROVAR PROCESSED Republic Fire Hose —no sign of mildew.

• • •

Unretouched photo showing results after samples were saturated with water and exposed to moist atmosphere for six months.

THE REPUBLIC RUBBER CO.
YOUNGSTOWN, OHIO

***Republic* FIRE HOSE**

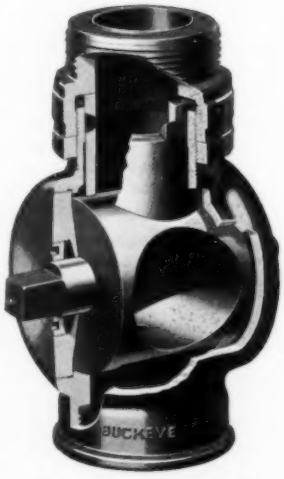
BUCKEYE Non-Leak Shut-off Nozzles

Fig. 900—2½" Shut-Off Nozzle with Play-Pipe Complete with Ladder Hook and Swivel Leather Handles.

We're giving you (on the right) some "inside information" as to just why Buckeye Shut-Off Nozzles WILL NOT LEAK. Note the adjustment collar. When this collar is turned firmly against the packing gland the resulting pressure keeps the valve seat tight at all times.

Another refinement is the clearance between the body and the valve itself which leaves room for foreign particles to "drop away" and prevents dents from "freezing" valve key.

Buckeye Valves will not open or close under pressure when partially shut-down—yet the shut-off works easily under pressure. Nozzle and all integral parts bear the Buckeye unconditional guarantee.



Sectional View of Fig. 900. Shut-Off Nozzle.

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Shut-off Nozzles · Roto-Rays · Whistles

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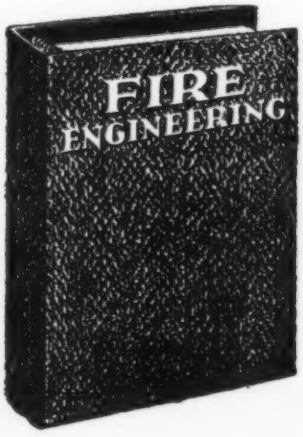

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WHAT'S BURNING

THE following list includes fires of $50,000 loss and over in the United States and Canada, for the month of March, 1937. These figures, compiled from the telegraphic reports, are based on estimates made at the time, and are subject to later investigations and consequent revision. Taken as a whole, however, they are an approximately correct view of the losses incurred. The figures represent loss in thousands of dollars.

Month Ending March 31	Loss in Thousands of Dollars
Southampton, L. I., N. Y.—Several Main Street business establishments	$ 50
Nashville, Tenn.—Davidson County Asylum, 5 mi. north	250
Denison, Iowa—Department store and bank bldg.	80
Charlotte, N. C.—Interior of Masonic Temple damaged	180
Ville Platte, La.—The Ardoin Sanitarium destroyed	125
Rockport, Tex.—The "Patsy," boat owned by S. F. Jackson	50
Clifton, N. J.—Property of American Colortype Co., destroyed	50
Atlanta, Ga.—Whse. of Atlanta Cotton Oil Co., destroyed	80
Clearfield, Pa.—Factory of Banta Refrigerator Works	50
Chicago, Ill.—Holy Rosary Church damaged	80
Dublin, N. H.—Property of George De Forest Brush	170
Logan, W. Va.—Logan Planing Mill yards damaged	50
Shamokin, Pa.—Breaker of Northumberland Mining Co., destroyed	60
Terre Haute, Ind.—Riley Consolidated School bldg. destroyed	170
Ansonia, Conn.—Three story bldg. in business section	70
Hazleton, Pa.—Business bldgs. owned by G. O. Praetorious and Chas. H. Rice	80
Picher, Okla.—Ore mill of Federal Mining & Smelting Co.	50
Goffstown, N. H.—Town Hall destroyed	50
Bakersfield, Cal.—Shapiro department store and adj. property	80
Jackson, Mich.—Plant of Thorrez-Maes Mfg. Co.	400
Havana, Ark.—High school bldg. destroyed	50
Texarkana, Ark.—Broom factory of Southland Company	50
Bath, Me.—New Meadows Inn, 3 mi. out.	50
St. Paul, Minn.—Herzog Iron Works damaged	80
Springfield, Mass.—Carlisle building damaged	250
Bradford, Pa.—Four bldgs. of Taylor Aircraft Co.	180
Danville, Pa.—Laundry bldg. of Danville State Hospital	50
Durham, N. C.—Fuller grade school building damaged	80
Cleveland, Ohio—Grief Cooperage Co. and adj. property	50
Blanding, Utah—High School bldg. destroyed	80
Sacramento, Cal.—Murray and Low Hardware store	50
Scranton, Pa.—Peny Bryn, residence of L. A. Watres destroyed	200
Philadelphia, Pa.—Stables on G. E. Widener estate	80
Fort Smith, Ark.—Plant of Porter Mirror & Glass Co.	100
Sunbury, Pa.—Bldg. of Hackett's East End Hardware Co.	50
Lewiston, Idaho—Bldg. occupied by Lewiston Trades and Labor Council, destroyed	70
Galveston, Texas—Bldg. housing Columbia and Elite Cafes	50
Adrian, Mich.—Grain and seed plant of Cutler-Dickerson Co.	50
Caldwell, Idaho—Caxton Printers' plant destroyed	400
Elkins, W. Va.—Central high school building damaged	50
Lynn, Mass.—Four bldgs. of Atlantic Building & Supply Co.	80
Russiaville, Ind.—Business property damaged	60
Janesville, Wis.—Sheldon Hardware store damaged	50
Charleston, S. C.—Storage yards of Tuxbury Lumber Co., 3 mi. north	100
Leola, Pa.—Upper Leacock High School destroyed	125
Leicester, Mass.—Leicester high school bldg. destroyed	180
Shenandoah, Pa.—Bldg. of Citizens Building & Loan Co., adj. property	75
Alma, Colo.—Business district badly damaged	50
Kaukauna, Wis.—Business property	60
Hoaquim, Wash.—American Door plant damaged	70
Ecorse, Mich.—Paint shop of Murray body plant	60
Brookhaven, Miss.—High school bldg. destroyed	125
Warrenton, Va.—Dwelling of Dr. F. A. Georgen on Lee Highway, 3 mi. N.	70
Kenosha, Wis.—Korbal building damaged	50
Des Moines, Iowa—Sheuerman Bros. woolen mills damaged	50
Drumheller, Alberta—Whitehouse Hotel and adj. property	170
Calumet City, Ill.—Plant of Central Chemical Co., damaged	70
Lewiston, Me.—Cloutier block destroyed	100
Alma, Colo.—Business and residential property	50
Franklin, Pa.—J. C. Penny Co., Inc., store building	60
Memphis, Tenn.—Cattle barns at Mid-South Fair Association	80
Charlottesville, Va.—Whse. of Michie Co., destroyed	50
Clayton, Mo.—Residence of Alexander Fraser destroyed	50
New Lisbon, N. J.—Several wings of Burlington County Alms House	170
Parsons, Kan.—Several business establishments	50
Milford, Mass.—Milford high school destroyed	170
New Castle, Pa.—St. Cloud building destroyed	300
Marion, Ind.—Mess hall of U. S. Veterans' Hospital	250
Bolton, Miss.—Depot of Y. & M. V. Railroad	70
Davenport, Ill.—Victoria Elevator Co. plant, Rockingham Rd.	50
Fairmount, Ohio—Plant of American Waterproof Co.	50

General Alarm Fire Razes Warehouse

The entire plant of the Atlantic Building Supply and Wrecking Company, including a 300-foot long storage shed, main office building, and piles of lumber, were destroyed in a general alarm fire on March 23, in Lynn, Mass.

Careless smoking is believed to have caused the fire, which, fanned by a brisk March breeze, sent sheets of flame fifty feet into the air, endangering nearby industrial property.

The first alarm at 2:45 was followed by a second three minutes later. Upon arrival of Fire Chief William F. Welch, a general alarm was sounded at 2:49.

The fire was out of control for nearly an hour, but the firemen managed to save several piles of joists by laying down a water barrage on the easterly side of the burning warehouse.

The property destroyed is located between the Lynn Gas & Electric Company's plant, and the Champion Lamp Works, and grave fears were felt that flying embers might start fires in either of these plants.

The warehouse was swept by fire five years ago, and was replaced with the front end of brick construction, which was saved by great effort on the part of the firemen. Two delivery trucks were destroyed and several firemen were affected by smoke inhalation.

The day proved a tough one for Lynn firemen, as they had just returned from a two alarm fire that swept the upper stories of a three decker apartment house on Revena Terrace. In this blaze three families were forced to vacate, and the flames, caused by an overheated smoke pipe, running from a small heater to the chimney, did $7,500 damage and necessitated the sounding of two alarms.

The fire started in the cellar, swept up through the partitions to the roof, where it mushroomed with great force and heat.

A. H. BLACKINGTON.

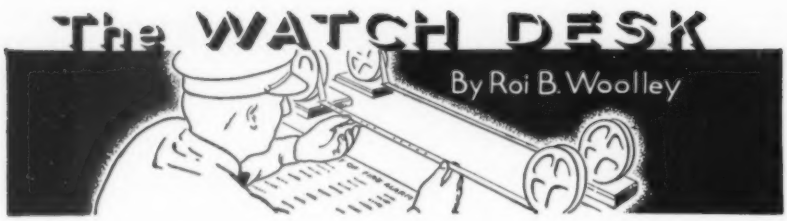
Ruins of the Supply Company Warehouse

New Apparatus Sales

Hasbrouck Heights, N. J., has purchased a 600-gallon triple combination Seagrave pumper. Delivery of the apparatus is expected about June 1.

The Commissioners of the Fire District of East Northport, N. Y., have ordered a double bank Maxim ladder truck.

Islip, N. Y., another Long Island community, is awaiting the delivery of a Maxim ladder truck.



Our inquiring reporter overhauls the firemanic news of the day.

It Can't Be They're "All Wet"

Jerusalem's City Councillors (Palestine) bought a magnificent new fire engine and then discovered that the city had no pressure water hydrants. Fire engine is useless save "for to see, and for to admire" as it passes through the streets.

Boys Will Be Boys!

Citizens of Osceola (Mo.) were attracted by a blaze that could be seen clear across the town. They looked around for the Osceola F. D. but couldn't find it! Little later they discovered the city firemen had started the blaze in burning brush.

Dressed For the Occasion(?)

Mrs. Charles Jones, Loveland (Col.) got surprise of her life when she transmitted alarm to Fire Department for a burning chicken coop, and in answer had five handsome firemen respond all dressed out in tuxedoes, patent leather pumps, "boiled" shirts and black ties. Even though looking like headwaiters, they went to work on the coop and restricted loss to 15 chickens.

This reminds us of experience of Larchmont (Vol.) F. D. Seems the officers from lieut. up used to wear white coats and hats. Very fussy outfit in those days. Well, during a Fire Council meeting, attended by all officers, some 23 in all, alarm "hit in" and all hands responded with apparatus. Imagine homeowner's surprise to have 23 white coated and hatted figures come charging into the house. "Why, I didn't order the street cleaners," sez the bewildered housewife—"I want firemen—the roof's afire!" However, the "white shirts" quickly proved their mettle and, soon after, abolished use of white coats except for Chiefs.

Fireman Go to All Churches—

Mrs. Julia Church and two sons are minus home in Dunnellon (Fla.) as result of old Southern custom. Explosion of water heater set house afire and telephoned alarm to F. D. said "The Church house is burning." Firemen took it to mean the edifice for Sabbath worship was afire and they made complete tour of all three Dunnellon churches only to find nothing amiss. By the time fire had been located dwelling and contents were destroyed.

News Flashes:

When fire destroyed the Mt. St. Joseph Academy, near Cincinnati, 500 persons were threatened but all were saved—200 of them nuns. A 103-year old Sister was among the rescued. . . . A Manchurean New Year blaze trapped 1,500 in Chinese theatre, caused 700 fatalities. . . . In Barre, (Vt.) three children burned to death in their beds while their parents were away. . . . Using paint remover in elevator of office building in Tulsa (Okla.) two men burned to death when it ignited. . . . Latest New York City pumpers have "subway hanger-straps" to enable rear-step riders to "hang-on." . . . Second greatest fire in Melbourne, Australia, history, caused loss of over $2,000,000. . . . While responding at high speed to an alarm of fire, car of Chief Marshal Potts, Mishawaka (Ind.) itself blazed up; Chief pulled to curb and turned in an alarm for his own fire. . . . When Eugene Sharkey's truck caught fire in Lenox, (Mass.) Eugene drove frantically to nearest fire station. . . . Driver of a Billerica fire truck responding to alarm smelled smoke—stopped to investigate, found his own clothes afire. He had dropped lighted pipe in flannel shirt pocket when alarm 'hit' in. . . . Auto thief, incarcerated in Miami's skyscraper jail, used hose to escape. He dropped "house-line" and slid down it from 21st floor, making a good get-away. . . . 232-year old Catholic Church at Point aux Trembles was destroyed by fire. . . . A small stove used to heat an auto-trailer generated fumes which asphyxiated 15-year old Roe Lambert, Easton (Pa.). . . . A widow near Lapeer (Mich.) hid life's savings $1,100 in a chimney. Her son started fire—savings went up in smoke. . . . Prince, aged black shepherd dog, that received a Carnegie medal in 1931 for saving his town from burning, was killed by an auto. . . . Heavy trucks passing over temporary wooden excavation for Sixth Avenue subway (N.Y.C.) caused vibration which set off mechanism of fire alarm box. . . . Staten Island (N.Y.C.) had so many serious brush fires simultaneously that five fire companies had to be ferried over to the Island to "cover up." . . . An explosion wrecked and sank a Gulf Oil Company's tanker at Norfolk (Va.) killing skipper and injuring seaman.

The Entente Cordial

When the Canadian Pacific's Railway station at Highwater, across the border from Newport, (Vt.) caught fire, the North Troy and Newport departments hustled across the border and helped confine the blaze. Mutual aid in time of fire, knows no boundaries.

Blue About Blue Fire Boxes

The Lakeview (L. I.) Board of Fire Commissioners, flouting tradition, have put the Hempstead Town Board in a dither and a pretty pickle. Commissioners want all the 17 red fire alarm boxes in town painted blue, and lights over 'em changed to that color, too. Reason, said a Commissioner, is that "state law allows only ambulances to have red headlights" and admitted that blue bulbs are scarce. Somebody has suggested they re-read the law!

Lightning Lit Furnace Fire

Month's "tall story" is this one handed in by a New Jersey correspondent. Seems that Mrs. Frederick Muhleisen, of Lyndhurst (N. J.), had stuffed furnace with newspapers, preparatory to firing up. As she got ready to light fire, a bolt of lightning struck chimney, traveled down it and ignited her fire, throwing Mrs. Muhleisen fifteen feet. She was more "upset" than injured.

An Astonished Chief

Police Chief George Shippee, of North Arlington (N. J.), off duty, in civilian clothes, answered an alarm of fire only to find it was his own home. All his uniforms and most of the house's interior was ruined.

Figger This Out, You Fire Lawyers

The Georgia Supreme Court has ruled that a school teacher who accidentally sets his pajamas afire while grading examination papers, cannot be legally regarded as "injured in the course of his employment." The decision upheld the State Compensation Board in rejecting a claim by C. D. Saunders, principal of the Hart County Eagle Grove School.

Brave Girls

Firemen had to drag heroic telephone girls from their posts in Mechanicsville (N. Y.) during $100,000 fire. When firemen arrived at fire they found half-dozen operators rapidly calling every doctor to warn them that service was in danger of suspension. Girls ignored warnings of firemen, who finally pulled them from their posts.

Orchids to Truck Driver

This month's bouquet to Lester Giles of Buffalo (N. Y.) who, with his truck burning and 187 gals. of gasoline beneath him, piloted his machine to bridge near Silver Creek (N. Y.) in order not to endanger traffic if truck exploded. As he drove down steep hill, hampered by clouds of smoke, Giles expected truck to 'blow' any moment. With aid of his own extinguisher and local F.D., the fire was extinguished. One auxiliary tank exploded, but caused no serious damage.

Note to contributors: If you do not read your news contribution in the next issue of FIRE ENGINEERING don't despair—if it's suitable it will ultimately find its way into print.

Editor, Watch Desk.

WHAT DO YOU KNOW?

The Editor of "The Watch Desk" welcomes contributions from readers of FIRE ENGINEERING that briefly give facts about interesting, odd things that have to do with fires, fire fighting, etc. Address "Editor, Watch Desk."

HIT THE HOT SPOTS WITH FOG

FOGNOZL APPLICATORS REACH AND EXTINGUISH INACCESSIBLE FIRES SAFELY QUICKLY . . . ECONOMICALLY

FOGNOZL Applicators are unequalled for efficiency in combating and extinguishing fires in inaccessible or confined areas such as attics, basements, storage vaults, cells, between partitions, dormers, holds of ships, over the rims of tanks, and other places where ordinary spray, mist, or solid stream nozzles are useless. In addition, FOGNOZL Applicators provide cooling protection to the fireman.

When used in conjunction with two opposed 3-A FOGNOZLS to form a fog screen, this Applicator may be thrust through the fog screen to extinguish extremely hot flames.

FOGNOZL Applicators are available in lengths from 6′ to 30′ for use on booster lines, 1½″ fire hose and 40-gallon soda and acid engines.

Other types of FOGNOZLS, providing Fog and Solid Stream and Fog only, are available in sizes from 1″ to 2½″.

There is only one FOGNOZL—the Griswold FOGNOZL—designed, used and enthusiastically endorsed by firemen. Write today for full particulars on FOGNOZL Hydraulics.

THE FOG NOZZLE CO.

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AFTER all, a good badge is a sensible investment. Not everyone can wear a fireman's emblem of service. You men who have devoted your lives to saving life and property should be proud of your badge.

You will be if you wear a BRAXMAR BADGE. Over fifty-five years of experience goes into every badge you buy.

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BRAXMAR BADGES

Standard for Over Fifty Years

Give her the gun! LIN-LINED fire hose will take it!

STANDS UP UNDER TOUGHE ST DUTY!

LIN-LINED FIRE HOSE

● Linen-lined hose is not affected by heat. There is no rubber to dry up, crack, burn or otherwise deteriorate! ● It weighs *only* 35 pounds per length coupled! ● It is thoroughly mildew-proofed! ● It will stand greater pressure than ordinary fire hose! ● It is easiest to handle, can be rolled or folded compactly, immediately after usage, without drying!

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BROWDER LIFE NETS

Over 50 years of continuous experience in the manufacture and improvement of Life Nets enables us to produce now the New Browder Life Net—one of the best nets made!

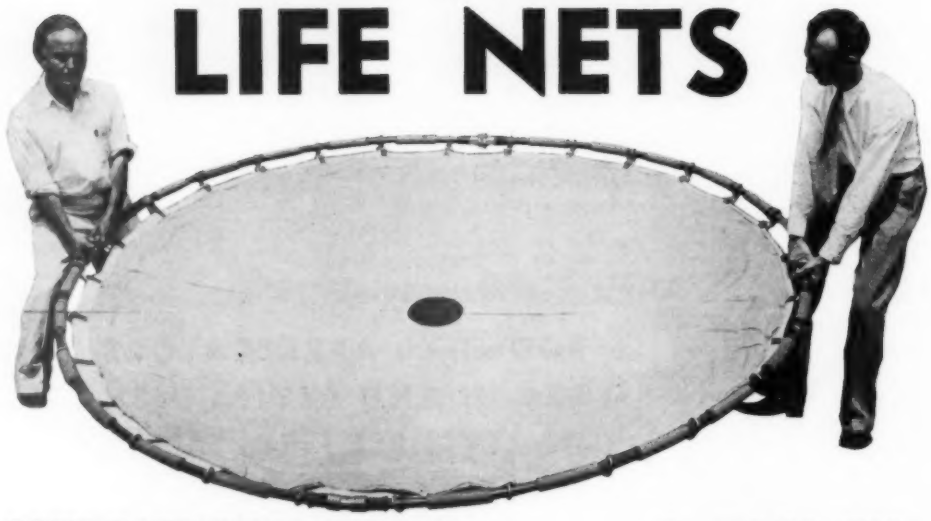
Strong — Easy to handle!

In Quarter-fold for Pumpers and Rescue Cars; Half-fold for Aerials!

By far the most widely used nets in America!

Modernize your equipment with Browder Life Nets and be ready to save life!

Your dealer sells them. Ask him for information, or write us direct.



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Reduce Water Damage & Insurance Rates

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Salvage Covers are an essential part of the equipment of progressive fire departments all over the country.

All Shuredry Salvage Covers are made of our special chemically treated canvas. This treatment impregnates the fibre of the cloth and imparts a dry, flexible finish resulting in a fabric that is always pliable, soft, easy to spread. Shuredry Salvage covers are not affected by changing atmospheric conditions and are always ready for immediate use. This is a mildew resistant treatment that also acts as a preservative. It adds very little to the weight of the cloth. Shuredry covers will not crack on the folds when you put them on your storage shelf.

Three-fourths of all fire losses are directly chargeable to water damage. Reduce this hazard. Specify Shuredry Salvage Covers to your purchasing agent. Drill your men in their use.

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Diesel Powered Pumper

One of the fire apparatus manufacturers is working on a new 1,000-gallon pumper powered by a diesel engine. The engine is of the type which is being used on freighting trucks.

New One on the Firemen

Firemen are subjected to all kinds of foolishness, but a new one was discovered at Toronto, Ont. When District Chief Sandy Dean and a number of fire companies responded to a box alarm, they found a ticket on the box reading, "April Fool, Boys. Sorry!"

JOHN KARL LEE.

"Emergency Plan" To Be Formed in New Haven County

At a meeting of New Haven County Chiefs held in the Annex Fire House, New Haven, Conn., on Thursday evening, April 1, it was decided to form a "New Haven County Fire Chiefs' Emergency Plan," on similar lines to that of the Fairfield County organization. Chief J. S. Pachl, of the Annex Fire Department, was elected Chairman of the Meeting, and Assistant Chief Ernest Cox, Milford, acted as Secretary. A By-Laws Committee was formed, which is to report at the organization meeting, to take place at the Annex House, on Thursday evening, April 22.

Six members of the Fairfield County Plan and three members of the New London Chiefs' Association attended the meeting.

The "Emergency Plan" idea, which is a system of mutual assistance between Fire Departments, originated with the "Fire Chiefs Emergency Plan" of Westchester County, N. Y. Other similar organizations are the Mid-Hudson-Harlem Fire Chiefs' Association and the Columbia Fire Chiefs' Association, both in New York State.

New Incinerator Designed

The new Tarment approved incinerator for burning rubbish and leaves has been placed upon the market by the Dover Stamping and Manufacturing Company, of Cambridge, Mass. This device was invented and designed by Ex-Chief John H. Tarment, of Foxboro, Mass. It has been endorsed by the Massachusetts Department of Public Safety, the Massachusetts Department of Conservation, and by many prominent New England Fire Chiefs.

A luncheon was given in the Boston City Club on March 30, at which the incinerator was placed on exhibition and explained.

Those present were Ex-Chief John H. Tarment; Ernest J. Dean, Commissioner of Conservation; Fire Warden Maxwell C. Hutchins; Assistant Warden John P. Crowe; Alfred N. Miner, Massachusetts Safety Council; Percy C. Charnock, New England Insurance Exchange; Harry Belknap, FIRE ENGINEERING; Harris A. Reynolds, Massachusetts Forest and Park Association; Allen Z. Whitney, President; Louis S. Cleaves, Vice-President, and Hugh R. Rooney, Field Engineer, Dover Stamping and Manufacturing Company.

HARRY BELKNAP.

By William Paul Babcock

WHEN I began to erect this pillar of information, I made it plain that it was not to be a one-man-show.

In order to be successful and beneficial, we must have ideas, suggestions and criticisms from our readers.

Just to show you how valuable these contributions can be, I offer herewith the first such received, by way of encouragement to the rest of you.

One of the oldest (in point of service) and ablest volunteer Fire Chiefs it has ever been my pleasure to meet, is Charles G. H. Fischer, of Ellenville, Ulster County, N. Y. Charlie Fischer has been fighting fires there since the leather hose days (I can just barely recall them) 53 years in all, and he has been Chief 18 years.

He hasn't just sat on the job, but has tried to be up-to-the-minute.

Among the modern methods employed by his outfit are salvage work and a well equipped rescue squad.

One winter day his rescue crew was called to a drowning at a nearby lake. Someone had seen a boy walking over the ice and a short time later noticed he was no longer in sight. Realizing the boy could not have crossed the lake, a call was put in for the rescue squad. Upon arrival they found no ready means of reaching the spot where the boy had broken through, as it was apparent the ice would not hold them. A canvass of nearby cottages resulted in procuring a rowboat. But upon launching, it was found to leak like a sieve. So Chief Fischer immediately ordered a salvage cover brought out and it was wrapped and made fast about the boat and in this improvised craft the crew proceeded to grapple and after half an hour procured the body.

Incidentally, I mention the time element, because resuscitation was attempted but was, of course, impossible to accomplish.

So, there's another *very* valuable use for a salvage cover. I have another for next month, contributed by a western chief and I'm still asking for *your* experiences. Oh, Thanks!

P. S. In writing, last month of "Sid" Johnston and Chief McAuliffe's new rig, I omitted to mention that nearly ten years ago Sid expressed his belief that some day all fire trucks would be fully enclosed. I don't know where he got the idea from, there weren't any in existence then as far as I know, but it looks like a prophecy.

Combination Flusher and Fire Pump

The American Steam Pump Company, Battle Creek, Mich., recently delivered a unique apparatus which is illustrated in the photograph. It consists of a combination street flusher and fire pump. The chassis in the picture has not yet been equipped with a water tank, and the demonstration shown was made with a hydrant supply.

The use of this unit for operating on brush fires would be particularly effective, in view of the fact that the flusher might be used for wetting down a large area, while fire streams might be employed for killing fire not reached by flushers.

When the flushers are not in operation, the machine will deliver two good fire streams for ordinary Fire Department service. Carrying a supply of water with it, the machine should prove very effective for handling suburban area blazes.

Combination Flusher and Fire Pump in Operation

New York City Tests Pumpers

Under the direction of Captain Herman F. Kuch, of the New York Fire Department, five Mack pumpers of a new design were tested on March 30, and three more on the following day. In all, nineteen units of this design were ordered by the department and the remaining eleven will be tested this month.

Rear View of the New Style Pumper

Standing on the rear step are Captain Kuch and Fire Commissioner John J. McElligott. The Captain is showing how the windshield swings in, and the Commissioner is testing the new style strap.

Each has a capacity of 1,000 gallons a minute.

Since Mayor LaGuardia has been in office, only 1,000-gallon machines have been ordered, to replace the old 750-gallon pumpers.

The new pumpers have an enclosed steel cab for the driver and the officer in charge. Protecting those who ride on the rear step is a glass windshield, which may be lifted up and out of the way, and also two side wind breakers. A sudden lurch of the engine would cause the windshield to swing in as the firemen on the rear step leaned against it. Only shatter-proof glass is used.

Instead of the old style leather strap, it has a style of strap used in the New York City subways. The straps are mounted on a bar, and are in a rigid uniform position when not in use.

Scaling ladders which used to be carried on the top of the apparatus are now carried on the sides so that there are no overhead obstructions when reaching the hose. The pumper carries 1,200 feet of hose.

The pumpers have flashing red signal lights and semaphore signals for indicating the direction the apparatus is to turn.

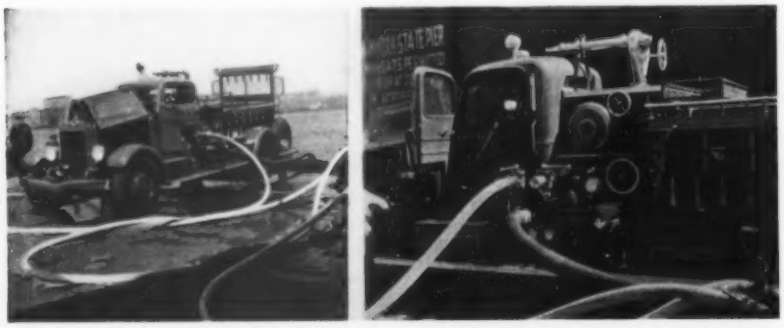
Boston Fire Conference

A fire prevention meeting was held in connection with the sixteenth annual Massachusetts Safety Conference in the Hotel Statler, Boston, on April 5. Alfred N. Miner, of Gilmour, Rothery & Co., Vice-President of the fire prevention division, Massachusetts Safety Council, presided.

Speakers at the morning session were Chief Samuel J. Pope, Boston Fire Department, and T. Alfred Fleming, Director of Conservation, National Board of Fire Underwriters. During the luncheon in the ballroom, a demonstration of salvage work was given by members of the Boston Protective Department.

At the afternoon session the speakers were Harold O. Cook, Massachusetts State Forester; Harold B. Shephard, of the U. S. Forest Service; and John P. Crowe, Assistant State Fire Warden, Massachusetts. Exhibits of safety devices were on view.

HARRY BELKNAP.



Two Views of the Apparatus Tested at New York City

Left, view of the pumper as it was being tested. Right, a close up of the control devices and gauges, and a view of the enclosed cab for driver and officer.

Milwaukee Has Low Loss

Chief Peter Steinkellner, Milwaukee, Wis., reported that the per capita fire loss in that city for 1936 was only eighty-three cents, the lowest in thirty-nine years. The average loss per fire was $189.44 as compared with $260.61 for 1935.

Philadelphia Wins Grand Award

Philadelphia is the winner of the grand award in the 1936 Inter-Chamber Fire Waste Contest. It showed the best record of fire prevention accomplishment in the competition, participated in by more than 300 cities, representing approximately 50 per cent of the urban population of the United States.

Winning cities in the annual contest, which is sponsored by the National Fire Waste Council, in cooperation with the Chamber of Commerce of the United States, were announced at a meeting of the council at Washington, D. C. These winners in different population classes will receive bronze engraved plaques at the annual meeting of the Chamber, to be held in Washington the latter part of April. They are:

Class I.—Cities of more than 500,000 population—Philadelphia.
Class II.—Cities of 250,000 to 500,000 population—Providence, R. I.
Class III.—Cities of 100,000 to 250,000 population—Hartford, Conn.
Class IV.—Cities of 50,000 to 100,000 population—Lakewood, Ohio.
Class V.—Cities of 20,000 to 50,000 population—Parkersburg, W. Va.
Class VI—Cities under 20,000 population—Lafayette, La.

Statistics compiled by the Council covering the cities reporting in the contest show that the per capita fire loss of contesting communities was $1.40. Compared with the average per capita fire loss of $1.80 for the same cities for the years 1931-1935 inclusive, the figures show a decrease of 22.2 per cent. In 1936 there was a decrease of more than $10,000,000 in property loss in the communities participating, as compared with their average annual fire waste for the preceding five years.

In announcing the winners, the judges in the contest also announced a list of cities given honorable mention. The honor cities are:

Class I.—Los Angeles, Cal., Milwaukee, Wis., Detroit, Mich., Chicago, Ill., and Baltimore, Md.
Class II.—Atlanta, Ga., Memphis, Tenn., Rochester, N. Y., New Orleans, La., Minneapolis, Minn., Louisville, Ky., Portland, Ore., Oakland, Cal., San Antonio, Tex., and Indianapolis, Ind.
Class III.—Spokane, Wash., Canton, Ohio, Syracuse, N. Y., Honolulu, Hawaii, Grand Rapids, Mich., Long Beach, Cal., Ft. Worth, Tex., El Paso, Tex., Trenton, N. J., and Elizabeth, N. J.
Class IV.—Greensboro, N. C., Pasadena, Cal., Durham, N. C., New Rochelle, N. Y., Berkeley, Cal., Fresno, Cal., Schenectady N. Y., Asheville, N. C., Roanoke, Va., Portland, Me., and Evanston, Ill.
Class V.—Lubbock, Tex., Newburgh, N. Y., Baton Rouge, La., Burlington, Iowa, Amarillo, Tex., Norristown, Pa., Rocky Mount N. C., Massillon, Ohio, Wichita Falls, Tex., and Watertown, N. Y.
Class VI.—Ft. Collins, Col., Morristown, N. J., Coalinga, Cal., Weston, W. Va., Geneva, N. Y., Prescott, Ariz., Port Angeles, Wash., Valley City, N. D., Charlottesville, Va., and Pottstown, Pa.

Bayonne Wins Award

The Nelson Fire Prevention Trophy, which is awarded to the Fire Department in Hudson County, N. J., which has made the best showing in decreased fire losses, has been presented to Bayonne. Jersey City was second and Hoboken was judged third.

FIRE CHIEFS *and* INVESTORS

When we started this business 34 years ago, it was sufficient for investors to hold *only* stocks and bonds. Hence we were interested in protecting only stocks and bonds.

● Today however an investor is taking great risk in buying *only* stocks and bonds. Every conservative business man and investor should today have at least 25% of his funds in real estate, commodities, and other forms of real property.

● In view of the above, we have bought an interest in companies best prepared to protect buildings, merchandise and assets other than stocks and bonds. We are anxious also to help associations and publications which are striving to prevent fire losses.

● For the same reason investors should take more interest in fire protection and back up firechiefs in their plans and efforts. A good fire department is a good hedge against inflation.

BABSON'S STATISTICAL ORGANIZATION, INC.

By ROGER W. BABSON, *President*

Babson Park, Mass.

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Winter usually raises HOB with firemen's coats. Spring is here. NOW is the time to buy a new coat. Why not get a waterproof, soft, flexible, good looking and long wearing coat with the FAMOUS SAFETY SNAP? MIDWESTERN MAKE THIS COAT. You can't buy a better coat at any price.

Treat Yourself to a Midwestern Coat—Now

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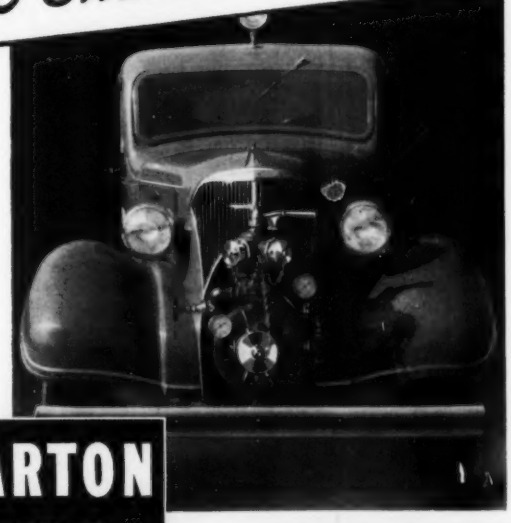
Manufacturers of a Complete Line of Quality Firemen's Clothing

COMPLETELY INSTALLED *NO Chassis Change!*



BARTON FIRE PUMPS

GEAR DRIVE

NOTHING FINER — Barton U-Type Fire Pumps (as shown above) are regularly equipped with built-in Gear Drive—truck motor operates at approximately ONE-HALF pump speed. With pump wide open and discharging at 250 lbs. pressure, motor loafs along—NO RACING—NO STRAIN! Long motor life assured. U-Type Pumps are built in 350, 400, 500 and 600-gallon sizes.

Also available 400, 500 *and* 600-*gallon F-Type Pumps (Direct Drive) at LOWER PRICES—also small Barton Booster Fire Pumps at still lower prices!*

TEN years have passed since the first Barton Fire Pumps went into service—and these first pumps are still making good—for we maintain the highest standards and use the finest materials money can buy.

"How is it then that a Barton Pump saves so much in first cost?"—a fair question, frequently asked. The answer is found in our unique design and in our method of mounting.

For any capacity rating, a Barton Centrifugal Pump is smaller and more compact than older types. You buy no excess weight—no expensive gadgets. Lower cost, naturally!

But that's only half the economy story! Because of Front-Mounting (see above), a special expensive truck is not required. *Any size Barton Pump can be used on a standard truck—completely installed and ready for service without a single chassis change, costing only a few dollars for mechanic's labor.*

UNDERWRITERS' TESTED

Barton Fire Pumps meet and exceed Underwriters' requirements. They handle clean or DIRTY water. They are Automatically Primed. And there's a size for every need. Write for details today!

AMERICAN STEAM PUMP COMPANY
BATTLE CREEK, MICHIGAN
PUMPS AND PUMPS ONLY SINCE 1873

The DAY VAPOR NOZZLE

Latest Scientific Development in VAPOR NOZZLES!

"BEST BY TEST!"

Here is the simplest, most efficient Three-Way Nozzle in use today! Invented by a practical fire fighter Thomas R. Day, Master Mechanic of the Buffalo Fire Department. Thoroughly tested under all actual fire conditions, the Day Vapor Nozzle is proclaimed by experienced fire chiefs to be the "Best by Test!" Here's why:

● NON-CLOGGING. By merely opening nozzle all foreign substances are readily emitted.

● SIMPLE. Only four parts. Made of bronze with chrome finish. Will not wear, rust or corrode. No lubrication necessary.

● ADJUSTABLE. Three-way,—vapor, straight stream and shut-off. Gradual shut-off eliminates back pressure. Adjustable under pressure to meet heat conditions. Operates on pressures from 40 to 300 pounds. Uses two-thirds *less* water than a straight stream!

● VAPORIZATION. Breaks water into a fine mist which fire converts into steam, thereby eliminating oxygen and quickly extinguishing fire!

● ALL USES. Designed for oil fires, these nozzles have been proven by actual tests to be the most efficient on any and all types of fire!

The Day Vapor Nozzle is usable with your present equipment. Made in five different sizes they meet all fire requirements!

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Dealers' Inquiries Particularly Invited

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"The 'Fire Chief's Handbook' is the work of one of vast experience. Every fireman should have a copy for study and reference."

Chief Gambrell of Dallas, Texas ***writes:***

"It is very instructive and helpful. We find this book very convenient to refer to in our school work."

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By FRED SHEPPERD

In Collaboration with the EDUCATIONAL COMMITTEE *of the* INTERNATIONAL ASSOCIATION OF FIRE CHIEFS

THERE have been books on fire-fighting, but never anything so complete and authoritative as the "Fire Chief's Handbook." This book, a gold-mine of practical, helpful data, gives a reliable, up-to-the-minute answer to almost every question that might come up in modern fire-fighting practice.

For progressive fire chiefs, interested in up-to-date fire fighting methods, the "Fire Chief's Handbook" will be a mighty valuable reference guide. It gives to ambitious fire department officers and men, in plain, understandable form, information that should prove extremely helpful in preparing for promotional examinations. In fact, it is a book every fighter needs and ought to have. *The Edition is Limited—Better Order Your Copy Today.*

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Here are some of the subjects covered:

- FIRE DEPARTMENT TOOLS AND EQUIPMENT
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- FIRE STATION DESIGN
- TRAINING OF FIREMEN
- SALVAGE OPERATIONS
- BUILDING INSPECTION
- VENTILATION AT FIRES
- CARE OF FIRE HOSE
- CHEMISTRY OF FIRE
- HEAT AND ITS ACTION
- DRILL TOWERS
- DRILLS AND EVOLUTIONS
- FORCIBLE ENTRY
- EXPOSURES
- STANDPIPE WORK AT FIRES

—and Many Other Things

Manufacturers' Announcements

Ammonia Masks

Mine Safety Appliances Company, Pittsburgh, Pa., has issued a colored bulletin describing the new MSA ammonia masks for use in servicing ammonia refrigerating equipment.

Federal Sirens

An illustrated folder showing their complete line of sirens, has been issued by the Federal Electric Company, Chicago, Ill. Three new models have been developed, the Coaster, Doubletone and the Junior.

Cornell Doors

A twelve-page illustrated catalogue, showing various forms of steel fire doors, is being distributed by the Cornell Iron Works, 36 13th Street, Long Island City, N. Y. It shows rolling doors, float-over, bifold, vertical lift and other types of doors.

Value of Sprinklers

"Are Dead Insurance Dollars Robbing Your Business?" is the title of a booklet just published by Rockwood Sprinkler Company, 38 Harlow Street, Worcester, Mass. The purpose is to show the savings in insurance premiums when a sprinkler installation is made.

Rocker Lug Coupling

Bi-Lateral Fire Hose Company, Chicago, has put out a new light weight hose and a drop forged rocker lug coupling. The new coupling is constructed so that the swivel is protected from injury.

The coupling is made of drop forged metal. When old hose is junked, the coupling can be removed and used again on new hose.

Ladder Truck Reconditioned

A two-wheel drive American-LaFrance ladder truck, in service for twelve years, was rebuilt at the motor shop of Toronto, Ont. It is now equipped with a Ford V-8 tractor, and air brakes on all wheels were installed by Linderman Devices, Ltd., with offices in the United States and Canada. The department plans to install this type of air brake on all its apparatus.

Non-Twist Hose

The B. F. Goodrich Company, Akron, Ohio, announces a new construction in their line of chemical hose which they claim practically eliminates twist.

The "White Anchor," "Fire Extinguisher," and "Sentry" brands are of wrapped construction type. The company said that, while ordinary chemical hose will twist as much as eight turns under 400 pounds pressure, tests made of the hose mentioned, showed less than one-fourth of a turn.

Fog Nozzle Tested

Fognozl Applicators, one of the several types of fog nozzles marked by the Fog Nozzle Company, Los Angeles, Cal., were given a test in the San Francisco Stadium. A sedan was doused inside and out with fifteen gallons of gasoline and set afire. The fire was extinguished in eighteen seconds with the use of a 10-foot duraluminum Fognozl Applicator, with a 1-inch Type B head. But eighteen gallons of water were used. Smoldering upholstery in the car was extinguished with a 5-gallon back pump, equipped with a 2-foot applicator.

Reconstructed Ladder Truck of Toronto, Ont., Department

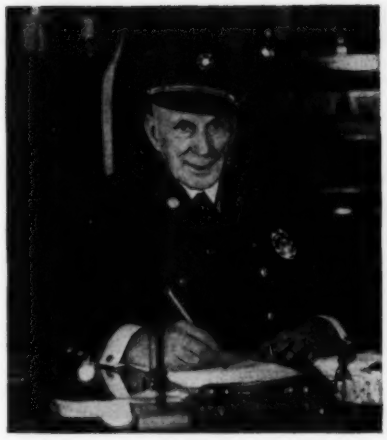
Chief Towey, Newark, Retires

Chief John J. Towey, Newark, N. J., Fire Department, retired as its head on March 27, after a service of 40 years, 22 of which he has been Chief. He joined the Fire Department on March 15, 1897. On December 16, 1901, he was promoted to be lieutenant; became a captain in January, 1905; was made a Battalion Chief on August 1, 1906, Deputy Chief, October 1, 1912, and Chief on June 19, 1925.

On leaving the department Chief Towey issued a statement to officers and members expressing regret because of his retirement, and thanking those who had cooperated with him over a lifetime of service.

The Chief said:

"I contemplate with genuine regret the severance of the pleasant ties that have united us in a common cause—the sincere desire to serve the people of Newark to the best of our ability and a concerted effort to the end that our department shall be second to none in efficiency. Believe me when I say that I am most grateful for the unselfish co-operation that has been given me during my tenure as Chief Engineer of the department."



Chief Weeks Observes an Anniversary

Chief W. P. Weeks, Battle Creek, Mich., marked his fifty-seventh year as a fire-fighter. He joined as a volunteer. While Assistant Chief, a full time department was established with five men. He was one of the group.

A parade of the Newark Fire Department in honor of Ex-Chief Towey was held on April 8, in which a number of visiting Chiefs took part.

Ex-Chief John J. Towey

Ex-Chief Towey served as President of the International Association of Fire Chiefs in 1934-35 and has taken a prominent part in the affairs of the association for a number of years.

Deputy Chiefs Lynch, Duffy and McConnell will alternate in charge of the department until Chief Towey's successor is appointed.

Chief Ross B. Davis Injured

Chief Ross B. Davis, Philadelphia, received a broken ankle when he and several other fire fighters were hurled out the main entrance of a varnish plant by the fifth of a series of five blasts, while fighting a blaze that destroyde the plant. He was removed to St. Mary's Hospital. The fire, which broke out on April 7, gave the Fire Department over a six-hour battle before it was considered under control.

CONVENTION DATES

April 21—FIRE CHIEFS' EMERGENCY PLAN. Regular Meeting, Montrose, N. Y. Secretary, Captain Walter M. Dawkins, Box 341, Port Chester, N. Y.

April 22—NEW HAVEN COUNTY FIRE CHIEFS' EMERGENCY PLAN. Organization Meeting, New Haven Annex Fire House, New Haven, Conn. Acting Secretary, Assistant Chief Ernest J. Cox, Milford, Conn.

April 26-29—JOINT MEETING MISSOURI VALLEY FIRE CHIEFS ASSOCIATION, KANSAS FIRE CHIEFS' AND FIREMEN'S ASSOCIATIONS. Missouri Valley, 3rd Kansas Chiefs', 21st, and Kansas Firemen, 50th Annual Conventions, Hutchinson, Kan. Secretary-Treasurer, Missouri Valley, Chief Ray Tiller, Waterloo, Ia.; Kansas Associations, Chief K. D. Doyle, Wamego, Kan.

April 27-29—NORTH CAROLINA FIREMEN'S TRAINIING SCHOOL. Annual School, Durham, N. C. Conducted by Sherwood Brockwell, State Fire Marshal of North Carolina. Secretary, Firemen's Association, John Miller, Concord, N. C.

April 28—FAIRFIELD COUNTY FIRE CHIEFS' EMERGENCY PLAN. Regular Meeting, Greenwich, Conn. Secretary, Lieut. John Moehring, Toms Road, Stamford, Conn.

May 10-11—SOUTHEASTERN ASSOCIATION OF FIRE CHIEFS. 10th Annual Convention, Albany, Ga. Secretary, Chief R. S. Baughan, Norfolk, Va.

May 10-14—NATIONAL FIRE PROTECTION ASSOCIATION. 41st Annual Meeting, Congress Hotel, Chicago, Ill. Managing Director, Franklin H. Wentworth, 60 Batterymarch Street, Boston, Mass.

May 24-26—NEW MEXICO STATE FIREMEN'S ASSOCIATION, 15th Annual Convention, and Fire School, Clayton, N. M. Secretary-Treasurer, Theodore A. Rosenwald, Albuquerque, N. M.

May 31-June 5—SOUTH DAKOTA FIREMEN'S ASSOCIATION. 53rd Annual Convention and 8th Annual Fire School, Pierre, S. D. Address, Chief R. A. Powell, Pierre, S. D.

June 3-5—EASTERN ASSOCIATION OF FIRE CHIEFS. 10th Annual Convention, Mayflower Hotel, Washington, D. C. Secretary, Chief Charles E. Clark, Wayne, Pa.

June 8-10—OHIO FIRE CHIEFS' ASSOCIATION. 20th Annual Convention, Chillicothe, Ohio. Secretary-Treasurer, Chief Philip J. Harty, Fire Department, Youngstown Sheet and Tube Company, Youngstown, Ohio.

June 15-16—NORTH DAKOTA STATE FIREMEN'S ASSOCIATION. 53rd Annual Convention, Walhalla, N. D. Secretary, Heinie Hamptman, Bismarck, N. D.

June 15-18—ILLINOIS ANNUAL FIRE COLLEGE. 13th Annual College, University of Illinois, Urbana. Director, Prof. L. H. Provine, of the University; Secretary, Asst. Chief Roy W. Alsip, Champaign, Ill.

June 16-19—WASHINGTON STATE FIRE CHIEFS' ASSOCIATION AND WASHINGTON STATE FIREMEN'S ASSOCIATION. 5th Annual Convention, Chiefs, and 15th Annual Convention, Firemen's Association, and Annual State Fire College, Everett, Wash. Secretary, Chiefs, W. A. Groce, Spokane, Wash.; Firemen, Lyle J. Ficklin, Kalama, Wash.

June 17—SOUTH CAROLINA STATE FIREMEN'S ASSOCIATION. Election of Officers only (convention cancelled), Columbia, S. C. Secretary-Treasurer, Chief John H. Wohlers, Charleston, S. C.

June 22-24—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. 15th Annual Convention, The Balsams, Dixville Notch, N. H. Secretary-Treasurer, Chief John W. O'Hearn, Watertown, Mass. Chairman, Exhibit Committee, Chief Albert C. Melendy, Nashua, N. H.

June 23-25—MARYLAND STATE FIREMEN'S ASSOCIATION. 45th Annual Convention, Easton, Md. Secretary, George R. Lindsay, Hagerstown, Md. Chairman, Exhibit Committee, J. M. Van Buren, Easton, Md.

July 6-9—PROVINCE OF QUEBEC POLICE AND FIRE CHIEFS ASSOCIATION. 5th Annual Convention, Rivière du Loup, Que. Secretary-Treasurer, Robert Harrington, Chief, Fire Department, McColl-Frontenac Oil Co., Ltd., Suite 8, Windsor Hotel, Montreal, Que.

July 7-10—COLORADO STATE FIREMEN'S ASSOCIATION. 21st Annual Convention, Fire College and Tournament, Glenwood Springs, Col. Secretary, Clinton Turnbull, 215 Boston Bldg., Denver, Col.

July 12-15—FLORIDA FIRE COLLEGE. 8th Annual College, Daytona Beach, Fla. Secretary, Chief F. C. Pfaender, Winter Haven, Fla.

July 12-15—MICHIGAN STATE FIREMEN'S ASSOCIATION. 63rd Annual Convention and 9th Annual Fire College, Luddington, Mich. Secretary, Charles V. Lane, Charlotte, Mich.

July 13-14—MARITIME FIRE CHIEFS' ASSOCIATION. 23rd Annual Convention, Charlottetown, Prince Edward Island. Secretary-Treasurer, George P. Ryder, St. Stephen, N. B.

Aug. 3-5—WISCONSIN PAID FIREMEN'S ASSOCIATION. 30th Annual Convention, Wisconsin Rapids, Wis. Secretary-Treasurer, William H. Schultz, Sheboygan, Wis.

Aug. 5-7—MONTANA STATE FIREMEN'S ASSOCIATION. 46th Annual Convention. Anaconda, Mont. Secretary, Robert J. Thorburn, Billings, Mont.

Aug. 9-12—NORTH CAROLINA STATE FIREMEN'S ASSOCIATION. 50th Annual Convention, Greensboro, N. C. Secretary, John Miller, Concord, N. C.

Aug. 24-26—DOMINION ASSOCIATION OF FIRE CHIEFS. 29th Annual Convention, Oshawa, Ont., Can. Secretary-Treasurer, Chief James Armstrong, Box 56, Kingston, Ont.

Sept. 7-9—MARYLAND FIRE COLLEGE. 8th Annual Fire College, University of Maryland, College Park, Md. Director, Prof. S. S. Steinberg, Dean, Engineering College; Assistant Director, T. W. Venemann, Maryland State Firemen's Association; Secretary, G. F. Pollock, President's Office, University of Maryland.

Sept. 8-9—DELAWARE VOLUNTEER FIREMEN'S ASSOCIATION. 17th Annual Convention, Dover, Del. Secretary, S. H. Carson, Dover; Chairman, Convention Committee, W. W. Pettyjohn, Dover.

Sept. 14-15—IOWA FIREMEN'S ASSOCIATION. 60th Annual Convention, Atlantic, Ia. Secretary, Paul A. Soener, Independence, Ia.

Oct. 5-7—FIREMEN'S ASSOCIATION OF THE STATE OF PENNSYLVANIA. 58th Annual Convention, Philadelphia, Pa. Secretary, Chief Charles E. Clark, Box 217, Wayne, Pa.

Oct. 12-14—ILLINOIS FIREMEN'S ASSOCIATION. 50th (Golden Anniversary) Convention, Danville, Ill. Secretary, Assistant Chief Roy W. Alsip, Champaign, Ill.

Oct. 19-22—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. 65th Annual Conference, Headquarters, Biltmore Hotel, and Exhibits and Sessions, New Municipal Auditorium, Oklahoma City, Okla. Secretary-Treasurer, Ex-Chief James J. Mulcahey, 16 Franklin Ave., Yonkers, N. Y.; Chairman, Exhibits, Chief Ray Tiller, Waterloo, Ia.

Aug. 30-Sept. 2—NATIONAL MUNICIPAL SIGNAL ASSOCIATION. 42nd Annual Convention, Hotel Statler, Cleveland, Ohio. Secretary-Treasurer, W. H. Harth, City Hall, Columbia, S. C.

New York Fuel Truck Bill Protested

A number of Chiefs representing municipalities in Westchester County, N. Y., met at the office of Chief Oscar Grab, of New Rochelle, N. Y., on the morning of April 1, and entered a strong protest against the passage by the New York State Legislature of the proposed Garrity bill, which would take away the authority of municipalities to inspect and license fuel trucks.

Terming the proposed bill as "vicious," "absurd" and "ridiculous," the officials decided to carry the fight to Albany by sending representatives when the bill came up for committee debate.

Henry J. Hilles was sent to the meeting to represent Fire Commissioner McElligott, of New York City, who has announced his opposition to the bill. Mr. Hilles, who is in charge of the tank and truck squad in New York City, said the bill was impractical under the existing Motor Vehicle Laws.

It was pointed out that the bill called for a State inspection of the fuel trucks and a State license. Under the proposed bill, fire officials in municipalities would be unable to stop a truck, even when they saw a dangerous condition or a violation of the law.

The Westchester Oil Trades Association is behind the bill, it was stated, because such a plan would save fuel truck owners money in license fees.

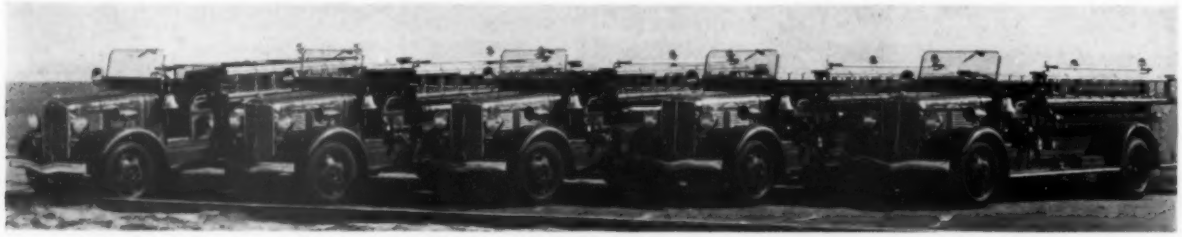
Those present were:

Director of Public Safety Phillip S. Tilden; Chief Grab; Commissioner of Public Safety Dennis Morrissey, Yonkers; Chief James J. Riley, Yonkers; Captain Lande, of the Yonkers Fire Prevention Bureau; Chief of the Port Chester Fire Prevention Bureau Matthew Jenkins; Fire Commissioner William A. Callahan, Mount Vernon; Chief H. Abbot Gibson, Mount Vernon; Chief Abbott Griffen and Deputy Commissioner William Brennan, White Plains; Judge Harry M. Hoop, Bronxville; Police Chief William J. Keresey, Larchmont; Chief Arthur Steuhl, Eastchester Township; Chief Roy C. Moger, Port Chester; Ex-Chief Walter A. Mertz, Port Chester, and Captain Walter M. Dawkins, Secretary of the Fire Chief's Emergency Plan.

Blast Hazards Found in Schools

Following the gas explosion in the high school at New London, the Fire Prevention Bureau of Houston, Tex., started an investigation of the local schools and thus far have found fire and explosion hazards in nineteen schools. Over 100 schools are to be inspected.

The hazards found include gas leaks, improper electric fuses and wiring, radiators too close to walls, lack of vents on stoves and heaters, improper valves on boilers, lack of fire hose and fire extinguishers.



Pirsch Apparatus Shipped to Caracas, Venezuela, South America

Five pieces of fire apparatus were recently shipped by Peter Pirsch & Sons Company, Kenosha, Wis., to Caracas, Venezuela, South America.

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Here is the Perfect Coat

FOR YEAR ROUND WEAR

- Waterproof wear-resisting black cloth fabric, one-ply rubber between two layers of drill.
- Detachable all-wool lining, snapped in. Perfect for winter. Remove it for summer. PATENTED.
- Full 5-inch corduroy collar, snug fitting. 5-inch storm fly with extra ball and socket fasteners.
- Set in sleeves. Double shoulder reinforcement. Two large outside pockets with flaps and eyelet drains. Snug fitting, warm wool wristlets.
- Seams triple stitched, cemented and strapped.
- Pants to Match, with detachable wool lining.

Send for latest catalog of complete line—Fire Fighting Clothes, Bunker Suits, Special Boots, etc.

U.S. FIRE EQUIPMENT CO.

SUCCESSORS TO SPECIAL CLOTHING CO.

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EXCLUSIVE TERRITORIES

ARE AVAILABLE ON

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MILLS — TRENTON, N. J.

FLAT CURED— WAX and GUM TREATED—

Any type you want!

Quaker City makes a complete line of fire hose in a wide price range—but every foot of it is made to give you the best service you can get in its price class. For a complete list of brands and prices write us anytime—

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Because wide-awake Chiefs demand the best. They don't take chances. When buying Hose Carriers, Pumpers or Ladder Trucks specify Atlas Quarter or Half Fold. Order one for training. Also the Atlas Certified Tested Ladder Belts.

ATLAS FIRE EQUIPMENT COMPANY

22 WARREN STREET, NEW YORK

Indispensable in every modern fire department!

KANT-BLAZE FIRE BLANKET

Blankets are 100% flame-proof, weight 6 lbs., measure 5'4"x 7'4". Come in red metal containers or knapsack with shoulder straps.

Your Fire Department is not thoroughly equipped, and prepared for *every emergency,* unless every piece of apparatus carries at least one Kant-Blaze Fire Blanket. One hundred per cent blaze proof, folded and packed ready for instant use, this inexpensive but necessary adjunct to your fire fighting equipment proves its limitless worth the very first time you use it. Once used, you will never be without it. Ask your dealer.

EITHER *metal box or knap sack* $15

United Pyro-Chemical Corp.
434 UNION ST. LYNN, MASS.

CRACKERJACK FIRE HOSE

The hose with an unsurpassed reputation for QUALITY and SERVICE that has made it the STANDARD OF THE WEST for over 25 years.

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Wax Treated - Solid Multiple Woven
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Manufactured by
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"Territories Available"

Are You Ready for Promotion?

QUESTIONS AND ANSWERS FOR BATTALION AND DEPUTY CHIEF

A 210 page book, fully illustrated, by Geo. J. Kuss, Former Deputy Chief, New York Fire Department, and Fred. Shepperd, Managing Editor of **Fire Engineering.** A valuable book, not only for candidates for examination for Battalion and Deputy Chief, but for every member of the department. The only book published which gives detailed methods of operating at large fires and the reasons for each more.

The following are a few of the important topics covered: Detailed description of the proper procedure in fighting fires: 1. Size-up; 2. Calling of help; 3. Saving of life; 4. Covering exposures; 5. Extinguishing fire; 6. Overhauling. How to test motor fire apparatus. How the following types of fires should be fought: Large department stores, large hotels and rooming houses, large area residential fires, combination stores and apartments, motion picture film exchanges, tall office buildings, wholesale grocery stores and warehouses, group building fires, theatres, schools, factories, etc., and considerable other data.

Here's a book that actually helps any officer or fireman ambitious enough to want a bigger and better job. Just look over the topics it covers and if you don't feel sure of just how to handle every situation, the proper thing to do — and do now—is to

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Gentlemen: I am enclosing $..... money order (or check), for which please send me.....copies of Questions and Answers for Battalion and Deputy Chief.

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Hazards of Gases Discussed Before Fairfield Chiefs

An interesting discussion on gases was given before the regular meeting of the Fire Chiefs' Emergency Plan of Fairfield County, Conn., by Captain William Russell, of the Waterbury, Conn., Fire Department. The meeting was held at the fire house at Shelton, Conn., on the evening of Wednesday, March 24, with a large attendance. Captain Russell spoke of the hazards of refrigerator gases, from carelessly installed pipes, leaks, etc. He also referred to the dangers from ammonia installations and spoke of the necessity for members of departments to acquaint themselves with the layouts of such installations. The dangers arising from faulty air conditioning systems were emphasized and he referred to an article in FIRE ENGINEERING, in which a fire was spread by the lining of ducts which were of an inflammable nature. Range burners and power burners, when faultily installed, were a source of danger, he asserted, and told of how his department had gone after such installations, with the result that the situation had been greatly improved. There was considerable discussion of the subject after the conclusion of the Captain's talk.

A short paper followed, descriptive of the system adopted in a residential park in Staten Island, New York City, where the streets were crooked and there were no numbers to the houses. This paper, which was by Deputy Chief John Spencer, was read by Robert H. Lockwood, Associate Editor, FIRE ENGINEERING, who at the same time, passed a map, showing the plan of the system, among the members. The map showed the numbers adopted by Chief Spencer, for each house, which were designated on the map, with a corresponding index giving the name of the occupant. Thus, by giving the number, the person phoning the alarm, could instantly acquaint the man on the board at the fire house with the location of the fire. Each apparatus driver also carried a map with the index, so that there would be no trouble in locating the fire en route.

A number of New Haven County Chiefs were present at the meeting. The President appointed a committee to meet with the New Haven Chiefs in connection with the formation of a Plan in that county, as follows: Chiefs Veit, Gisborne, Askew, Brencher, Burns and Secretary Moehring.

The Nominating Committee is as follows: Chiefs McNamara, Knickerbocker, Gisborne, and Van Holst, and the Banquet Committee: Chiefs Scully, Potter, Boyle, Drible, and Handley.

Refreshments were served after the meeting by the local company.

Fights Pension Rule

Former Chief Louis J. Conley, Pittsburgh, Pa., has announced that he will appeal to Common Pleas Court over City Solicitor Thomas M. Brenner's ruling that he must retire on a Fire Captains pension of $95 per month instead of on the Chief of Department pension of $150 per month.

The ruling given to the Firemen's Pension Board, which is deliberating Chief Conley's application, held that his appointment as Chief of Department was illegal, because it was made by former "Safety Director" David Turets, a former Mayor's recess appointment, which the new administration refused to recognize.

But in the ruling, Mr. Benner cited a letter, which Chief Conley had seized upon as basis for his appeal. That letter, dated September 14, 1936, was written by Col. George E. A. Fairley, present Safety Director, and authorized City Controller James P. Kerr to enter Chief Conley's name on the payroll as Chief of Depatrment.

Chief Conley holds that the letter is written confirmation of his appointment by Safety Director Farley, who succeeded Turets, and whose appointment was confirmed by City Council and was therefore legal.

Chief Conley was brought out of retirement by former Safety Director Turets to become Chief of Department on September 4, 1936. He had originally retired on July 16, 1936, on a Deputy Chief's pension of $125 per month, although the job of Deputy Chief had been abolished many months before by the City Council.

In effect, Solicitor Benner's opinion told the Pension Board to stop such practices, and so far as Chief Conley is concerned to retire him at the rank he held prior to making application for his pension, which was that of a Captain.

WM. E. PATTERSON.

Baltimore Ambulance Service 10 Years Old

The ambulance service of the Baltimore Fire Department marks its tenth anniversary next June.

Since its start in 1927 it has made well over 121,000 runs, and in 1936 there were 15,888 runs. Prior to the installation of these ambulances the only accident conveyances were the police patrols. The Fire Department now has eight ambulances, including a reserve and the one used for firemen only.

Firemen are specially trained and permanently assigned to the ambulances. The nearest ambulance and a surgeon respond to all second alarms. Ambulance No. 1 rolls on the third alarm, so that there is one ambulance to stand by for first-aid at fires, while the other is ready to rush an injured fireman to a hospital.

OTIS SMITH.

Mamaroneck Has Emergency Car

A squad car has been placed in service by the Fire Department of Mamaroneck, N. Y. The car is a Mack placed on a 168-inch chassis. The truck carries the major portion of the department's salvage equipment.

It also has the usual amount of first aid and rescue equipment. There are fourteen doors which give access to 136 cubic feet of covered storage space. There are also compartments reached through six hinged covers under the squad type seats on the truck, which accommodate twelve men. The aisle on the car, and compartment interiors are illuminated.

The truck carries a Grant deluge gun mounted at the rear of the driver's seat. If necessary, the gun may be removed for ground work.

Emergency and Salvage Car for Mamaroneck, N. Y.

The following salvage equipment is carried: Tarpaulins, mops, buckets, sawdust, foam, Pyrene and Lux extinguishers, hammer, nails, tar paper, lath, shovel, brooms, saw, asbestos gloves, pitchfork, squeegees, sponges, draining augur, storage battery hand lamp, and lamps with extension cords.

The first aid and rescue equipment consists of smoke masks, self contained oxygen mask, axe, extension and roof ladders, pike pole, hack saw, clippers, rubber gloves, grappling iron, rope, heavy jack, inhalators, stretchers, blankets, mattress, leg splints, heat pads, oxygen tank, one complete surgeon's bag, first aid kits, gauze, bandages, body bag, emergency squad jumpers.

There is a complete outfit of boots, rubber coat and hat for each member, in addition to lanterns, traffic blinker lights, fire line ropes, and fire line stop signs.

FALSE ALARMS

—Drawing by Otis Smith

"It's no use, sir. They won't go unless they can have a radio in it."

NEEDED HELP

Strange things do sometimes happen to the Fire Department. One evening the deskman was aroused from his reveries. An excited female was on the phone.

"Two boys are trying to break into my room through the window."

"Listen lady," explained the desk man, "you've got the wrong number. This isn't police headquarters, this is the Fire Department."

"Yes, yes, I know," she replied. "My room is on the second floor and they need a ladder."

Four "old fashioned," stire the passions.

Just because a girl has a light in her eyes doesn't mean that there's anybody home.

CLOSE SHAVE

Flannagan was very outspoken. The boys knew him for that trait.

The company was entertaining some of the men from a neighboring department, and a midnight spread was arranged.

He lined up for refreshments. Picking up a ham sandwich, he lifted up one of the slices of bread, and asked the fellow behind the table:

"Did you slice that ham?"

"Yes, I did."

"Well, damn it, you nearly missed it."

HEART THROB

The Captain has a daughter. That is about all that can be said. What little attention is paid her is because she is the Captain's daughter.

At the annual department ball she sat out several dances. Finally she saw a most attractive young fellow approach her. She was surprised and pleased.

He halted in front of her, bowed and asked;

"May I have this?"

Smiling, she arose, prepared to tread a joyful measure.

"Ah, thank you," said the gentleman, and he picked up a Spanish shawl upon which she had been sitting.

"Heavens above!" said the salesman on the train as he jumped into the berth beneath the one occupied by the star of the musical comedy, the company of which was on the same train.

INDEPENDENT

It was morning inspection. The Lieutenant was examining the apparatus and his company, as prescribed by the rules. He pressed the button on the driver's seat. Not a sound.

"The horn on this truck must be broken."

"No, sir," said the driver in defense. "It's just indifferent."

"Indifferent? What do you mean?"

"It just doesn't give a hoot."

SLIGHTLY SIMILAR

The drillmaster could be termed slightly hard boiled. He had seen service during the war, and therefore knew many of the stunts commonly practiced by men in uniform.

One of the rookies was absent, and a friend volunteered to straighten things for him.

"Brown," called the drillmaster.

"Here."

"I don't see Brown," shouted the officer. "Who answered for Brown?"

"I did," came the reply. "I thought you called my name."

"And what is your name?"

"Stevenoplotski."

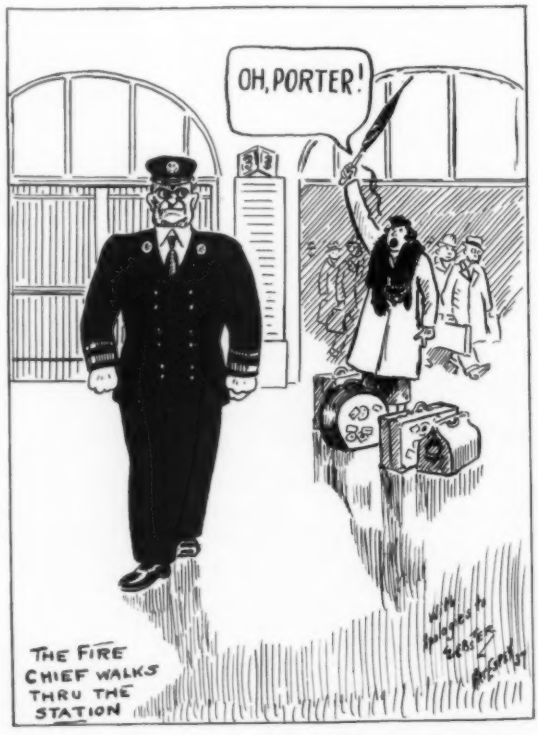
DIFFERENT METHOD

During a breathing spell on the drill floor, a couple of the rookies were discussing "women." It was Spring, and the subject seemed much more attractive than just talking about hose lines.

One fellow was making a confidant of the other fellow.

"You know, I never felt that way about a girl."

"No? What's your way?"



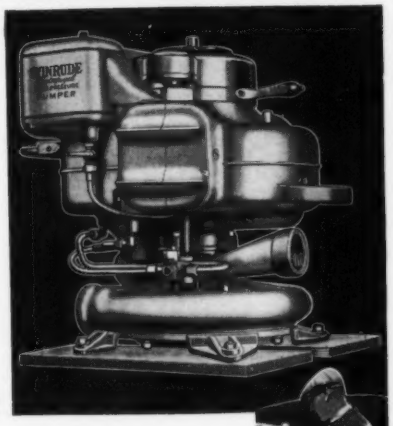
—Drawing by "Art" Espey

UP TO

154 Gals. per Min.

UP TO

150 Lbs. Pressure



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High capacity with high pressure. Write today for complete performance tables and specifications on this newest type, smooth running, four cylinder Evinrude Fire Fighter. Develops 9.2 H.P. at 4000 R.P.M. Latest, modern, hooded power type motor. Sand and other foreign substances handled without wear by simple, non-friction, centrifugal pump of exclusive Evinrude design. Write EVINRUDE, 4587 N. 27th St., Milwaukee, Wis.

EVINRUDE HIGH PRESSURE **PUMPER**

STERLING GENERAL ALARM **SIREN**

The Sterling Vertical Siren gives the Volunteer Fire Department a siren combining every important feature a fire signal should have, namely:

1. Powerful and distinctive tone.

2. 100% WEATHER-PROOF PROTECTION.

3. Ball bearing motor capable of carrying 100% overload. 4. Rigid, durable and unit construction. 5. Perfectly dynamically balanced rotor of aluminum. 6. Fast pick-up—long roll. 7. Outside casing rustproof Armco Iron, 4 coats Red Duco.

Write for descriptive folder.

Sterling Siren Fire Alarm Co., Inc.
ROCHESTER, N. Y.

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CENTRIFUGAL - ROTARY

Waterous Dependable
ESTABLISHED 1886

WATEROUS COMPANY - ST. PAUL

Unbelievable SPEED *in Smothering Fires*

● Did you ever see a LUX working? Well we did. *And you should.*

You have read that LUX carbon-dioxide snow is the fastest known extinguishing agent. But you should *see* LUX in action . . . see the speed with which LUX extinguishers snuff out the deadliest fires.

Here is what LUX extinguishers did in recent tests . . . Snuffed out an automobile engine fire *in* 3 *seconds* . . . a 270 sq. foot spill fire *in* 9 *seconds* . . . a tricky 3-level running gasoline fire *in* 4 *seconds* . . . completely extinguished a flaming 400-gallon tank truck *in* 21 *seconds.*

To watch a LUX demonstration is to get a brand new idea of what *speed* means in fighting serious fires.

Allow us to arrange a LUX proving-grounds demonstration in your city. The LUX representative will be happy to run any test you or your men ask for. And we promise you one thing—the tests you see won't be a series of "pushovers." They'll be typical of the most dangerous fire hazards you commonly encounter.

We invite fire chiefs to write to arrange for a LUX demonstration. It involves no obligation on your part. Write today.

LUX

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FILL IN AND MAIL — FIRE DEPT — FOR THIS ISSUE ONLY

Size 4 x 10½ inches, Cast Aluminum

Name of Chief.....
Name of Secretary.....
No. of paid Firemen.....No. of Vol.....
Do you meet regularly?.....
What date of month?.....

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You'll Feel
A HEAP SAFER
with
COVER'S DUPOR
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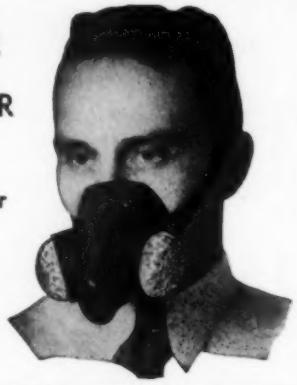
Smoke Respirator

$24 Dozen
Sample: $2. postpaid

H. S. COVER
Station A
South Bend, Indiana



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HALE FIRE PUMPS — HALE — CONSHOHOCKEN PA

HALE FIRE PUMP CO., Inc.
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CAIRNS LOW HEAD—CUSHION LINED **HELMET**

COMFORTABLE AS YOUR OLD FELT HAT; WON'T SHAKE OFF

Never go to a fire without the protection of a good helmet. It may save your life.

DESIGN - - MATERIALS - - CONSTRUCTION
ALL PROVED RIGHT BY YEARS OF ACTUAL USE

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Fire Hydrants

Are given preference by so many fire protection and water works men because they know that more than half a century of experience go into their manufacture and they embody valuable and exclusive features.

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ESTABLISHED 1907
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SOOT BLAST
Puts out chimney fires

Repeat orders prove its value!

5 minutes and a package of SOOT-BLAST, sprinkled over flames at base of chimney, will put out any chimney fire.

Try a case and see!

$4.50
per case
12-26 oz. packages
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NAME .....

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NOTE: The more specific you can be in detailing the items you are interested in, the more specific we can be in having the correct information sent you.

4-37

Fire Engineers Praise the NEW ELKHART Mystery FOG NOZZLE

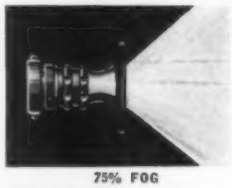
BECAUSE

It does more than they expected.

Skeptical, at first, Fire Engineers all over the country, become enthusiastic at the first demonstration of the New Elkhart Mystery Nozzle.

Trial orders, then repeat orders for all sizes of nozzles are coming in daily.

STREAM



75% FOG

WATER CURTAIN

THE MYSTERY NOZZLE IS ACCEPTED

Write or wire for YOUR demonstration.

AND NOW

The same Mystery Nozzle adapted for direct attachment to 2½" hose. No play pipe necessary.

Send for this illustrated folder and prices.

ELKHART BRASS MFG CO
ELKHART INDIANA

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YOUR JOB AND OURS, CHIEF, HAVE ALWAYS BEEN PRETTY MUCH ALIKE

IN THIS PLANT WE DO ONE THING

but we do that exceptionally well. Having originated and spent a lifetime in making wax and para gum treated hose, we know that the hose you get from this plant will give you more service than you would ever expect. Just try it — prove it to yourself.

WE'VE both been doing only one thing most of our lives. You've been fighting fires, we've been making fire hose. Chances are both of us know our jobs well.

Think of that the next time you buy fire hose. Remember, too, that for years we've been treating the yarn in our hose with wax and para gum to make it last longer. It keeps hose free from mildew, waterproofs it, too. But, don't take our word for it—try a few lengths of it next time you order hose. You'll never buy anything but Fabric after trying it—that's what a lot of chiefs tell us.

WAX AND PARA GUM TREATED

FABRIC FIRE HOSE

The Sole Product of

FABRIC FIRE HOSE COMPANY

SANDY HOOK, CONN.

FOR GREATER PROTECTION TO LIVES AND PROPERTY

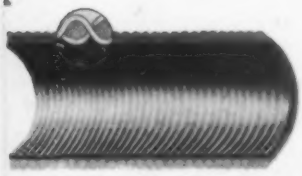
SPECIFY

EUREKA Multiple Woven 4-ply Fire Hose—heavy duty—four distinct plies—all tubular woven —contains smooth interior filler ply—new and improved lap-seam, long-lived rubber lining.

Eureka Streamlined FIRE HOSE

How the "Smooth Interior Filler Ply" helps create a Streamlined Fire Hose.

1



Subject an ordinary hose to hydraulic pressure and interior wall will be forced into a corrugated or "washboarded" condition. (See illustration No. 1 at left.) This condition causes excessive friction loss and consequently less water pressure at the nozzle—a weak fire fighting stream.

For a full, vigorous, strong fire fighting stream—with maximum pressure at nozzle due to minimum friction loss, a fire hose must have a smooth, streamlined waterway. Therefore Eureka Fire Hose has an individual set of warp and weft cords which fill in the valleys of the inner ply into which the rubber lining would ordinarily recede when hydraulic pressure is applied—and this set of cords is called "The Smooth Interior Filler Ply" (see illustration No. 2 at the right)—an exclusive Eureka feature.

2

3

Bomb-Tested Rubber Linings—Eureka *new* and *better* rubber lining with improved lap-seam . . . 4 plies of specially developed long-lived rubber . . . calendered into one homogeneous body . . . proved far superior by the Bomb Test—a scientific method of predetermining the aging characteristics of rubber goods. See illustration No. 3 at the left.

4

Mildew Proof Fabrics—All fabrics used in the different brands of *Eureka* Fire Hose are antiseptically treated to prevent the formation of mildew and rot. This exclusive Eureka mildew repellant solution does not add to the weight of the hose nor make the hose dirty, greasy, or hard to handle.

Specify Eureka and get these exclusive advantages.

EUREKA FIRE HOSE

Division of United States Rubber Products, Inc

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